OCTOBER, 1959

# AMATEUR RADIO

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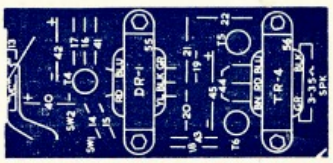

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# AMATEUR RADIO

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## EDITORIAL

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## HISTORY

HOW many of us in our school days have thought or said: "What a dry old subject is History", little realising at the time or appreciating its value to us in later life. It is axiomatic that as we grow older and our memories become less agile and retentive, we fall back on a pastime called Reminiscences. The venue is the park bench, the smoking room of the favorite club or the drawing room of the Rest Home. Many and varied are the arguments that take place as to whether Tom was the first to own a co-herer, Dick used to go out with Ella, or Harry owned a spaniel or a setter. The arguments are never settled to everyone's satisfaction because our memories fail us.

It is this particular aspect of our innate make-up that we wish to discuss—our memory, or rather the lack of it, as age creeps up and the past becomes less clear. It is, however, the facts of our earlier beginnings as an Institute or Amateur body rather than Tom's transmitter, Dick's lovelife, or Harry's pets that concern us. Being in a reminiscent mood recently, some old copies of the R.S.G.B. Bulletin were being perused, and it was interesting to note that one of our G contemporaries had compiled a series of articles dealing with the beginnings of that Society—that good old historical stuff again. It reminded us of the W.I.A's. lack of it when we were more recently again preparing the W.I.A's. proposals for the P.M.G's. Department and the brief for the Institute representative to Geneva.

It is on such occasions that the paucity of the Institute's history becomes apparent. It is sad to realise that the history of the oldest Amateur Society in the world, our own W.I.A., is not recorded in some lasting form for posterity; and to realise also that as the years roll by, more and more of our sources of information on our History, the Old-timers, are gradually dying out. It is by them that so much of our early history was made and from them our present status and organisation inherited. The least we can do for them when they gracefully retire from active participation in our grand hobby is to give them something tangible in the form of a properly recorded history to reminisce about in their leisure.

Every individual member, newcomer and active old-timer alike, can contribute something useful by jotting down the outstanding Amateur events of the day and by forwarding such facts and information periodically to his Division for transmission to Federal Executive. There it will be safely filed away and retained in the one place for future action. Early copies of Bulletins or Journals which preceded our present publication are all potential sources of information. The memories of our active old-timers can be wracked and important facts written down as they are remembered. From these and other sources will emanate the facts and our early history unfold.

At the appropriate time Federal Executive intend to set down these facts so that our early history is not completely lost—it is up to every individual to record historical facts, now in your head, old files, bulletins and the like and pass them to your Division. You are now required to keep a log of your transmissions in the technical field, see that you also make the effort to record our History.

W.T.S.M.

## THE CONTENTS

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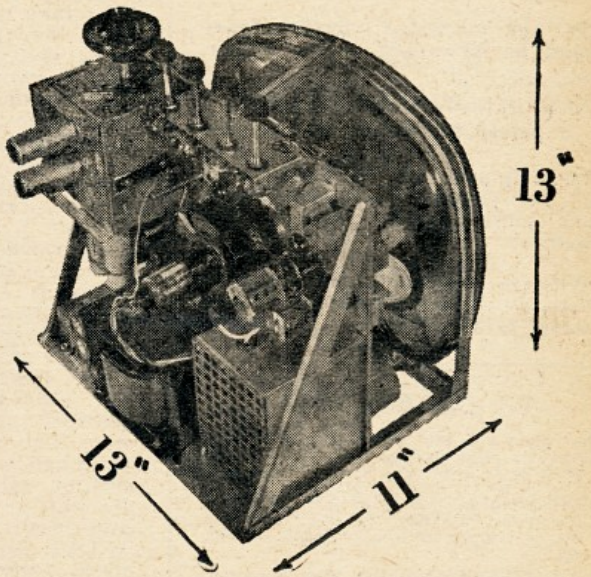


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# Plate Modulated D.S.B.R.C. or D.S.B.S.C.

R. E. W. MAY,* VK1PM

A RECENT article[1] in this journal described a transmitter which operated on double sideband reduced carrier or double sideband suppressed carrier. The enthusiastic remarks of the author of that article concerning his experience with d.s.b.r.c. rang true with me since I have been using this form of modulation for some three years or so. However, the present system employs plate modulation, whereas, in the transmitter described in the above article, and in the original articles[2] in "QST," screen modulation is the method used to obtain d.s.b.r.c.

The original d.s.b.r.c. dissertation in "QST" by George Grammar needs no elaboration. To reiterate in simple terms, a d.s.b.r.c. wave may be considered as similar to a normal amplitude modulated wave, but with the difference that the ratio of sideband power to carrier power on peaks of modulation is greater than the usual 1 to 2 ratio, i.e., the carrier may be regarded as having been modulated to an extent greater than 100% without distortion of the waveform or splatter. It is more convenient to refer to "modulation index" to indicate this ratio, e.g. a modulation index of 1 is equivalent to 100% modulation.

D.s.b.r.c. with a small modulation index, say less than 2, is compatible with the standard a.m. receiver, that is, it may be received without noticeable distortion or special adjustment. This is due to the inherent selectivity of the receiver which provides a carrier exaltation effect.

Like the author of the previous article, I had wondered why this form of modulation had not been more widely used. Similarly, I also reached the conclusion that the use of too high a modulation index would not be popular, because of difficulty in receiving with standard a.m. receivers. But possibly there is more to it than this. The path of Amateur Radio is littered with control-grid, screen-grid, and the like, efficiency modulation systems, leaving the more expensive plate modulation as the only serious contender for the a.m. title. It could be, that a d.s.b.r.c. screen-modulated system suffered not so much from being d.s.b.r.c., as it did from being a screen-modulation system. It is true that O. Villard described a plate modulation system way back in "QST", June 1947, which actually used the d.s.b.r.c. principle, but apparently with a modulation index not much greater than 1, for the purpose of preventing splatter only.

## EXPLANATION OF CIRCUIT

Fig. 1 is a general diagram of the d.s.b.r.c. plate modulation system. V1 is a normal final r.f. amplifier, plate modulated in the usual manner by audio amplifier V3, V4 through modulation transformer T. V2 is an additional tube, the output of which is in parallel to V1, and which is driven in push-pull to V1.

* 30 Meehan Gardens, Narrabundah, Canberra, A.C.T.

In operation, auxiliary tube V2 remains cut-off by the positive potential at its cathode in respect to the screen at ground potential, until a modulation index of 1 is reached. If a negative audio voltage is developed across the secondary of T greater than the positive high tension applied to V1, this tube is cut off abruptly, and, in the usual modulation system, will generate a waveform that results in the well known (unfortunately) splatter at the receiver. In the present system, at the point where V1 is cut off (modulation index = 1), auxiliary tube V2 commences to operate, since its cathode is now driven negative with respect to its screen (and anode). This tube will generate sideband power, which may be regarded as negative, in the sense that it fills in the negative peak, where the final r.f. tube V1 would normally be cut off. Fig. 2 illustrates this.

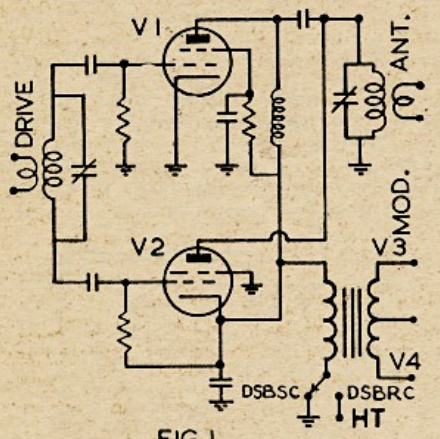


FIG 1

On the reverse cycle of modulation, V2 is cut off and tube V1 is driven into a positive peak. The modulatiou index attained can be calculated by observing the trapezoidal pattern on a c.r.o.

Assuming a correctly operated system producing a symmetrical waveform, the ratio of the positive peak deflection to the unmodulated carrier deflection equals modulation index plus one. A modulation index of 2 is shown in Fig. 2 (c).

It will be necessary to provide a modulator capable of supplying sufficient audio power for the desired modulation index, given a particular d.c. power input to the final r.f. amplifier. A 25 watt audio amplifier which is theoretically just capable of fully modulating a 50 watt final stage V1 on sine wave, will not trigger the auxiliary sideband generator V2.

In practice, with speech waveforms, an amplifier capable of producing 25 watts of sine wave audio power will easily overmodulate the 50 watt final stage on peaks. In this case, the negative peaks of the audio wave will trigger the sideband generator V2, so that the negative peaks, as well as the higher positive peaks of sideband power, are generated, and no splatter occurs.

The required audio power for a given modulation index, compared with the audio power for a modulation index of 1, is proportional to the square of that index. For example, if the desired operating modulation index is 2, for a transmitter final with 50 watts d.c. input, then 100 watts of audio power is needed. In rough terms, this would provide a "talk power" equivalent to a 200 watt transmitter with normal plate modulation.

Before the sharp ones with "California kilowatt" ideas begin to rub their hands at the gleeful prospect of a legal effective kilowatt or two it must be pointed out that a rise will occur in the final plate current meter, with modulation peaks, for a modulation index greater than 1, due to the fact that we are now registering the r.m.s. increase in audio power applied to the final tubes, the positive peaks being rectified by V1 and the negative by V2. So if you are trembling on the brink of 150 watts to your final stage, then d.s.b.r.c. at that power input is not for you, if you are to abide by P.M.G. regulations. However, by dispensing with some of that wasteful carrier power, a worthwhile increase in phone effectiveness can be made. The question is, by how much should the carrier be reduced?

In normal plate modulation, the "talk power" is directly related to the audio modulating power and not to the carrier power. This is illustrated by the numerous and varied schemes to increase the average level of modulation, such as by clipping, limiting, or, in the case of the unprincipled ones, simply "winding up the wick." The effect of increasing the carrier power is simply to allow more sideband power to be generated. Thus, the carrier may be reduced to zero and the result is double sideband suppressed carrier having the same phone effectiveness (providing a proper carrier is inserted at the receiver).

Now P.M.G. regulations state that the power input, measured at the anode of the final stage, shall not exceed 150 watts. This is generally taken to be the maximum d.c. power input to the final for carrier generation. Since

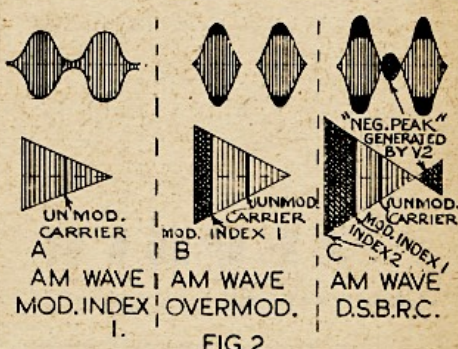


FIG.2

amplitude plate modulation is permissible, it is obvious that the actual power that could be measured on peaks of modulation is 150 watts d.c. plus 75 watts audio, total of 225 watts.

It has already been mentioned that at 150 watts d.c. input a technical infringement could occur for a modulation index greater than 1. But it is also obvious that on reducing the carrier to zero an unlimited audio power would not be permitted. In this case, for plate modulation, it appears logical to set the limit at 225 watts, wherein the 150 watts of d.c. power generating the carrier is replaced by 150 watts of audio power generating sidebands of increased power. Any carrier power we desire to have should be subtracted from this audio power up to the point of a modulation index of 1. By compromising with the available sideband power to provide a reduced carrier, we can provide the very desirable feature of compatibility with normal a.m., but still meet the competition of d.s.b.s.c. or s.s.b. in terms of "talk power".

It appears that a modulation index of 3 will still provide clearly readable reception of d.s.b.r.c. as an a.m. signal, in a receiver having good selectivity. Here the audio power is nine times the audio power required for a modulation index of 1, so that the ratio of audio to carrier is 9 to 2, which allows a d.c. power input of 41 watts, modulated by an audio power of 184 watts. This packs the punch of a standard a.m. transmitter having about 360 watts input.

The modulation index to be used at any particular time can be easily adjusted for the conditions obtaining by operating the audio control of the modulator (assuming sufficient audio power is available). For example, on 40 metres, 25 watts. d.c. input with modulation index 1 is often quite sufficient for that local or Interstate contact at readability 5. If a high degree of selectivity is available in the receiver at the other station, under adverse conditions for DX, or with QRM, the modulation index may be pushed up to 4 without objectionable distortion, since the high selectivity characteristic obtained by a crystal filter or sharp i.f. enables the carrier to be amplified to a greater extent than the sidebands, so that the detector "sees" an approximately normal a.m. signal. Tailoring of the audio response in the modulator audio amplifier to attenuate the lower audio frequencies will be beneficial since these frequencies, being closer to the carrier frequency, will not be so greatly attenuated in the i.f. stages of the receiver, and could cause low frequency distortion from an overmodulation effect at the detector.

As the modulation index is increased, so the audio from the receiver will "sound louder" for the strength of carrier received with a particular degree of selectivity. The signal will also "sound louder" than other a.m. signals, because, not only is the sideband content greater for a signal registering a similar S meter reading, but, for a signal with similar sideband power at the receiver, the a.v.c. will not be actuated to the same extent. The S meter may show an upwards kick with modulation peaks greater than a modulation index of 1, and this can be reduced by increasing the selectivity of the receiver.

### POINTS TO BE CONSIDERED

These are:—

1. Since the cathode of the auxiliary tube V2 is above earth, a separate filament transformer winding with adequate insulation for the full modulated h.t., is required.
2. The tubes used in positions V1 and V2 should be of similar types, although not necessarily of the same ratings.

In the matter of tube ratings, it should be observed that standard plate modulated ratings are not applicable. For example, a tube in position V1 having maximum ratings of 60 watts d.c. input for Class C plate modulation service, which is say 90 watts total input on peaks of modulation at a modulation index of 1, is being operated over its ratings at a modulation index of 2 for the same d.c. input, when the total power to this tube may rise to 135 watts. Tube V2 should be capable of taking about half the additional power above that required for a modulation index of 1, which is the other 45 watts of the total of 180 watts in this example.

It should be safe enough in this case to use a tube or tubes rated for 90 watts d.c. input Class C plate modulated service for V1, and a tube rated for 30 watts of audio output power (or sideband power) Class B for V2.


**TYPE 65**

General purpose with low frequency response suitable for lively halls.

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It may be noted at this point that a tube capable of carrying a 240 watt d.c. input under Class C plate modulated ratings would normally be required to enable this 120 watts of audio power to be fully converted to sideband power.

If d.s.b. suppressed carrier is to be used with full available audio power, then each tube in positions V1 and V2 should be rated to take half that audio power, and this may be roughly gauged as 1½ times the plate modulated Class C d.c. input rating.

3. Any h.t. applied to the anode of the auxiliary tube V2 is little more than a bias voltage and, if required, may be obtained from any convenient source having a suitable potential. Variation of this voltage does provide some control of the balancing of V2 with V1.
4. Correct operation of the circuit will produce a trapezoidal pattern on the c.r.o., connected as for normal plate modulation monitoring, similar to that shown in Fig. 2 (c).

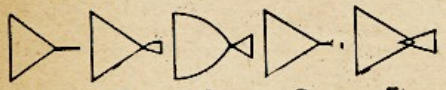

FIG 3

Incorrect operation may result in one of the patterns shown in Figs. 3 (a) to 3 (d), identified as follows:

(a) Tube V2 not operating, although adequate audio voltage available.
(b) (i.) Tube V2 mismatched for impedance with V1, or (ii.) insufficient drive to V2.
(c) Insufficient drive to Tube V1 or an inadequate power handling capability.
(d) and (e) Tube V2 triggering too late and too early respectively, in the negative modulation cycle. An unlikely fault, but (e) could be caused by too much h.t. bias on the plate of V2 and is to be avoided because of prolific harmonic generation.

5. For like tubes in positions V1 and V2 the final stage is self-neutralised. For unlike tubes, the stage possibly could be neutralised by the addition of a small capacitor across V2 (assuming V1 to have the larger plate-to-grid capacity) in order to reduce carrier leak from the driven tube when operating d.s.b.s.c.
6. **Unstable v.f.o's. are particularly undesirable** for carrier exaltation or re-insertion work.

## A PRACTICAL TRANSMITTER

A detailed circuit of a practical transmitter is shown in Fig. 4. It will be observed that existing transmitters using a pair of 807s or 6146s in the final could be modified to this system without much difficulty.

Suitable operating conditions for such a final are:—

Carrier d.c. input—25 watts.

Maximum modulation index—3.

Audio power for mod. index of:—
1—12½ watts.
3—112½ watts.

Input to V3 at mod. index of 3—25 watts d.c. plus 62½ watts of audio—87½ watts.

Input to V4 at mod. index of 3—50 watts.

"Talk power" equivalent is a standard plate modulated transmitter with 225 watts d.c. input, fully modulated.

When operated on d.s.b.s.c. up to 180 watts of audio, modulating power may be used without exceeding tube ratings.

A transmitter using a pair of 807s for V3 and a 6DQ6A for V4, with higher carrier input and a smaller modulation index than for the above system, has been in use for several months.

Another suitable combination would appear to be an 813 for V3 and an 807 for V4. This would allow any carrier power from 0 to 150 watts with any modulation index desired, subject to regulations of course. The audio power requirement must not be overlooked here.

### BANDSWITCH TABLE
(For Fig. 4)

| Final Freq. | Switch Position | Freq. at L1 | Freq. at L2 | Freq. at L3 |
|---|---|---|---|---|
| 3.5 Mc. | 3 | 3.5 Mc. | — | — |
| 7 „ | 2 | 3.5 „ | 7 Mc. | — |
| 14 „ | 1 | 3.5 „ | 7 „ | 14 Mc. |
| 21 „ | 1 | 3.5 „ | 10.5 „ | 21 „ |
| 28 „ | 1 | 7 „ | 14 „ | 28 „ |

### COIL DATA
(Approximate, since coil size required may vary with layout.)

L1—40 turns 20g. enamel, 1" diam., close wound.
L1a—5 turns 20g. enamel, wound at centre of L1.
L2—22 turns 20g. enamel, 1" diam., 2" long.
L3—9 turns 20g. enamel, ⅝" diam., 1" long.
L4—14 turns 16g. enamel, 1½" diam., 2" long.
L4a—4 turns insulated, spaced ⅜" from end of L4.
L5—10 turns 14g. enamel, 1¼" diam., 1½" long.
L5a—1 turn well insulated from and wound at centre of L5.

Well, there it is. For the enthusiastic "sidebander" this system provides an easy intermediate step for contacts with the s.s.b. gang by way of double sideband suppressed carrier, and yet standard a.m. is still available in the same transmitter.

For the a.m. "diehards" the system provides an answer to s.s.b. by the "super-modulation" effect of double sideband **reduced** carrier, involving only a comparative minor modification to the existing transmitter, and the provision of adequate power.

If d.s.b.s.c. is of prime importance, it is suggested that like tubes be used in positions V3 and V4 for best carrier suppression. The screen resistance of V4 could be matched with V3 also.

Clippers and limiters may still be used in the present system to raise the average audio level, although as splatter suppressors they are now superfluous.

As with standard plate modulation, the circuit is not critical in operation

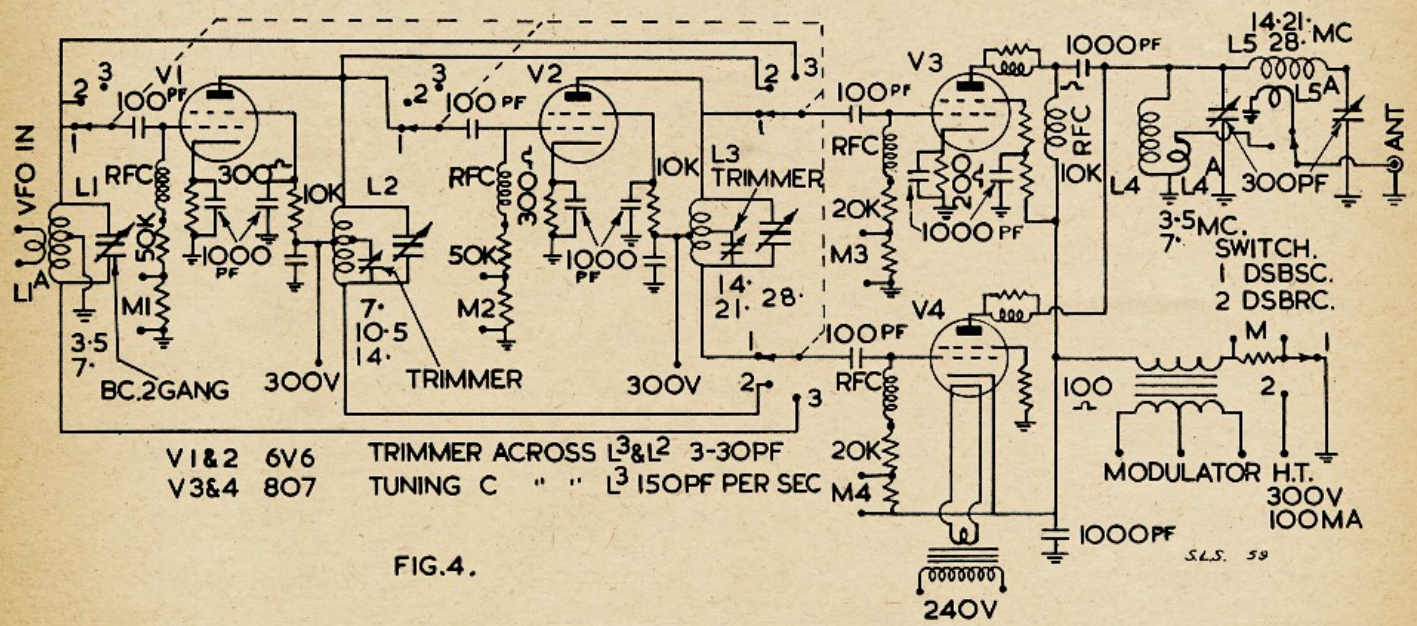

FIG.4.

and no re-adjustment from band to band or with different loadings is required. "On the air" reports have been consistently satisfactory, both from VK and DX, using the one and only multi-band fixed antenna available. A large number of stations contacted volunteer reports on the loudness of the signal, when using d.s.b.r.c., in comparison with other signals on the band although the width of the signal is reported as being narrower.

The disadvantages appear to be:

(1) As with any plate modulation system the high audio power required is more expensive to generate.

(2) The signal may suffer more from selective fading distortion effects with the reduced carrier under some conditions.

If this becomes troublesome on some occasions, it is a simple matter to (a) use full carrier and reduce audio, or (b) cut the carrier and wind up audio, after advising receiving station to insert carrier.

(3) Unless a receiver having an optional sideband selectivity characteristic is used, d.s.b.s.c. is not as easily resolved as s.s.b. However, such receivers are becoming more common and in this case the optional choice of sidebands at the receiver is an advantage.

**SYSTEM HAS OTHER POSSIBILITIES**

It has occurred to me that the "Command" transmitter is very easily modified for single band (40 metre) operation, using this system, and an external modulator.

Also, by using Class B modulation it would be advantageous for mobile work, where there is an obvious need for increased phone efficiency without the complexity or critical adjustments of s.s.b. or efficiency modulation systems. In this case the low power carrier generally used for mobile transmitters can be plate modulated to the same extent as a much higher power carrier (in terms of modulating power), giving the same or nearly the same effectiveness, and yet the only increase in power requirement is that the Class B modulator be supplied on modulation peaks.

**SUGGESTED STABLE OSCILLATOR**

A "Command" transmitter (i.e. BC 457, etc.) employs a stable oscillator and may be modified to provide an excellent v.f.o. In addition to the usual modifications, a desirable feature would be the provision of internal doubling. This may be accomplished by taking the three following steps:

(i.) The output circuit may be tuned to double the oscillator frequency by shorting part of the output tank coil with a switch.

(ii.) It is a simple matter to attach a shaft to the padding condenser in the output tuning circuit to obtain variable tuning, in addition to the ganged variable tuning already provided.

The padding condenser is locked by a slotted tongue, secured by a screw to the condenser frame. If the screw is removed, the tongue may be bent outwardly into a U-shape, so that the slot in the tongue is opposite the hole in the chassis, originally provided for screwdriver adjustment of this condenser. A key may be filed on the end

The late Harry Hatton, VK2AGU, at the operating desk of his station.

of a short length (about 1½") of brass shaft to fit the slot, the other end protruding through the hole to take a knob. Application of solder to the keyed joint will secure it.

(iii.) The oscillator coil assembly includes a coil feeding the 1625s in parallel from one tapping, a bias circuit on a second (centre) tapping, and a connection to a neutralising condenser (located on the sidewall opposite the output tuning condenser) from a third tapping.

The modification only requires that one 1625 be disconnected from the parallel grid connection, and the lead from the coil tapping be taken from the neutralising condenser and connected to the now vacant 1625 grid terminal, so that the 1625s are now driven in push-pull.

If one of the 1625 filaments is switched off (simultaneously with the breaking of the short across part of the output coil), the output stage will still be neutralised and will operate as an amplifier, the output coil being tuned to say 3.5 Mc. for maximum output.

On switching on the filament, shorting part of the output coil, and retuning output, the stage will operate as a push-pull doubler with the same efficiency as an amplifier.

It may be desirable to wind 3 or 4 turns of insulated wire around the base of the output coil for link coupling as the original variable link has a rather low impedance for coupling to a line.


**REFERENCES**

1. "The TA2 Special," by C. M. Sturkey, W7TNA, "A.R.," October 1958.
2. "D.S.B.R.C.," Parts I. and II., by George Grammar, "QST," May and June 1951.
3. "Amplitude Modulation Today," by K. W. Uhler, "Radiotronics," February 1959.


## JAMBOREE-ON-THE-AIR

The first event of this kind was organised last year on a limited scale. It is expected that most Scout countries will take part this year. The Jamboree-on the-Air will take place from midnight, Friday, October 23, to midnight, Sunday, October 25—G.M.T. Amateurs who have present or past association with the Boy Scout movement are invited to take part. They may join the event by simply calling "CQ Jamboree". Stations may operate on any Amateur wave band and with any equipment which is consistent with license requirements. Apart from individual participation by Scout Radio Amateurs, it is expected that radio stations will be set up in Scout group and district headquarters and on camp-sites. Radio Amateur clubs and individual Radio Amateurs interested in this event are invited to contact local Scout units to assist them either on a practical basis or by giving advice.

The Jamboree-on-the-Air is not a contest and there will be no prize for the operator making the most contacts. The event is being expressly organised to further the bonds of international friendship and brotherhood which unite the Scout movement.

Scout associations registered with the Boy Scouts International Bureau have been asked to appoint a national organiser for the Jamboree-on-the-Air and names and addresses can be obtained at the national headquarters.

The Boy Scouts International Bureau will operate from a station in Ottawa, Canada, and has acquired the special call sign VE3JAM.

— . . . —

## CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

### R.D. CONTEST

Editor "A.R.," Dear Sir,

I feel strongly that the time has come to reconsider the form in which the R.D. Contest is run. I feel that the phone and c.w. sections should be conducted on separate week-ends, and as a suggestion, the phone section should be on the week-end nearest 8th May (the date of the termination of the European section of the second world war), and the c.w. section on the week-end nearest the 15th August (the date on which the Asian section of that war ceased). I advance the following as some of the reasons supporting my proposal.

1. The number of stations with VK call signs is steadily increasing, and it is reasonable to anticipate that this increase will continue over the years.

2. The task for the Contest Committee would be very much simplified in respect of checking logs and calculating results, as only one type of contest would have to be considered at any one time, as the open section of the contest would be automatically eliminated.

3. Many stations now limit their activity to the phone section as, without doubt, numbers can be swopped very quickly on phone, whereas if sections on different week-ends they would enter each section wholeheartedly.

4. The time separation of the dates suggested above is great enough to maintain interest.

5. Overall activity on the bands would be increased, resulting in a much better case to support our retention of frequencies in the future.

—I. NICHOLS, VK7ZZ.

# A TRANSISTORISED Q5-ER

HANS J. ALBRECHT

IN general, a Q5-er consists of an i.f. amplifier on a low frequency, a detector stage, and an audio amplifier. Such a unit has proved to be extremely useful in telecommunications, either in addition to or forming part of a multi-conversion communications receiver. Due to the relatively low frequencies involved it appears to be obvious that transistors, i.e. normal triode-junction transistors, can easily be employed in a circuit of this kind. Nevertheless, transistorised equipment should always be designed in accordance with the technical aspects of transistorisation, and the corresponding design considerations previously discussed have to be observed in this as well as in any other similar case. It is equally important to select transistor types and operating conditions in such a way that costs of construction and operation are kept at a minimum level.

The Q5er to be described in the following can be used in conjunction with any receiver having a signal output on 455 Kc. If it is to be combined with the i.f. amplifier described some time ago[1], in order to form a communications receiver together with an r.f. section, a number of points has to be considered. The overall i.f. amplification has to ensure an adequate power level in the demodulation section of the receiver. The output signal required at that point is given by the type of audio amplifier used and also by the d.c. signal required for a.v.c. action. The first condition can easily be satisfied as the amount of signal power necessary at the input of the first audio amplifier stage can be calculated without much difficulty. The other condition depends entirely on the kind of a.v.c. to be utilised in the receiver.

As has been indicated previously[1], the application of a.v.c. in transistorised equipment is to some extent somewhat more difficult than in valve receivers. A signal-controlled shift of the quiescent operating point cannot completely be regarded as sufficient due to the shape of normal transistor characteristics. A preferable method seems to be the introduction of circuit damping proportional to the signal level. Depending upon the component employed to achieve such a damping (normally a diode), the amount of d.c. signal may have to be accordingly large. This means, however, that the overall power amplification of the r.f. part and all i.f. stages must be adequate. It may be assumed that an amplification of 110 db satisfies these conditions with a good safety margin.

The i.f. part of the Q5-er comprises two stages, viz. one i.f.-mixer and one amplifier stage on 75 Kc., with an overall power gain of approximately 50 db. Considering the r.f. part as amplifying the incoming signal to the normal degree, the required i.f. amplification ahead of the Q5-er amounts to about 40 db. The i.f. amplifier previously published in this journal was designed to produce sufficient amplification for the demodulation stage to be coupled directly to its output. Thus, when a Q5-er is connected to its output, the number of stages in the i.f. amplifier can be reduced from five to three, because the i.f. part of the Q5-er ensures additional amplification. In such a case it is recommended to eliminate the second (second stage on 2 Mc. with an OC170) and the fourth stage (first 455 Kc. stage with an OC45).

### THE 75 Kc. I.F. STRIP

The complete diagram of the Q5-er being depicted in Fig. 1, the first stage contains an OC45 as frequency converter from 455 Kc. to 75 Kc. In other words, the output circuit of the preceding i.f. amplifier is identical with the input circuit for this mixer stage. The oscillator signal is injected by means of emitter coupling and the oscillator itself works on a frequency of 530 Kc. Again, the mixer stage uses normal resistance stabilisation and a stability factor of about two, which, in accordance with the author's previous publications on transistor-circuit stabilisation[2, 3] is a value of S acceptable for tuned stages. The oscillator, on the other hand, utilises capacitance stabilisation[3, 4]. The transistor employed in the oscillator is an OC73, although other types should work equally well after a careful selection.

The calculation of components for capacitance stabilisation of oscillators involves special considerations. The following formula, however, has been derived by the author for a simple and approximate determination of the value of N, i.e. the relative change of frequency per degree centigrade[5].

$$N = \frac{\text{Delta } f}{f} = \frac{0.04\ C_c^2\ [I_{co}\ (S - 1) - 0.06\ I_c]}{\left\{C_c + \frac{6.42\ I_c}{a\ f_{co}}\right\}^2\ a\ f_{co}\ C_t} \quad \ldots\ldots\ (1)$$

where $C_c$ = Coupling condenser at base (in F.).
$I_{co}$ = Zero-input collector current with common base (in Amp.)
$I_c$ = Collector current at quiescent operating point (in Amp.).
$f_{co}$ = Cut-off frequency (in cycles/sec.).
$C_t$ = Total circuit capacitance for parallel resonance (in F.).
S = Static stability factor.
a = Current amplification factor with common base.

It has to be emphasised that this formula gives results of approximate kind only. The constants have been calculated for a circuit of the type

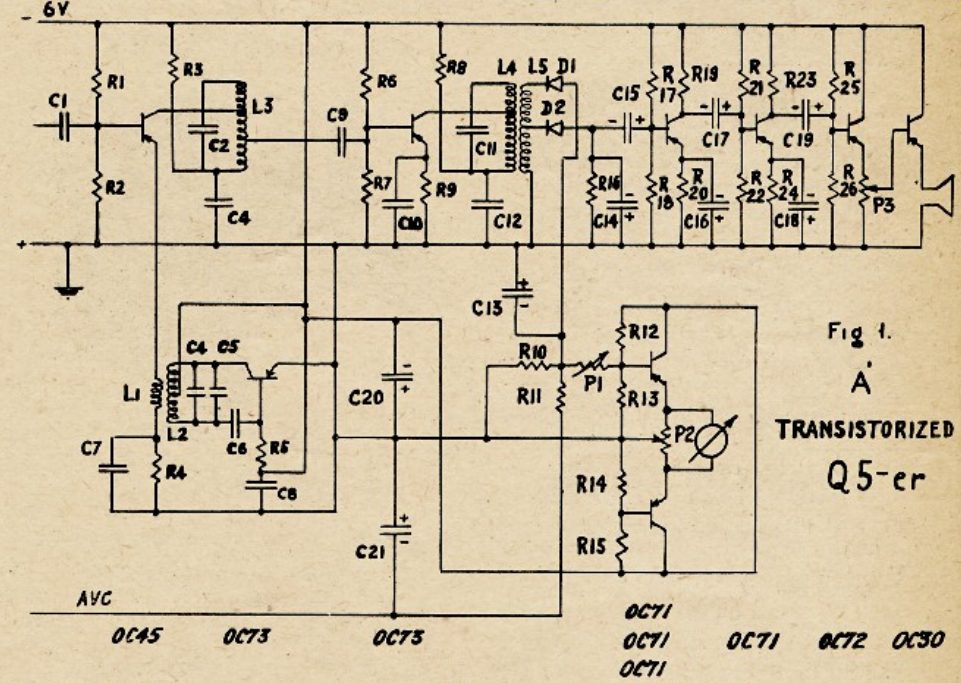


Fig 1. A TRANSISTORIZED Q5-er

R1—5,000 ohms.
R2—2,000 ohms.
R2, R6—2,000 ohms.
R3, R23—1,000 ohms.
R4—1,500 ohms.
R5, R10, R16—47,000 ohms.
R7—1,700 ohms.
R8—100 ohms.
R9—900 ohms.
R11—50 ohms.
R12, R15—370,000 ohms.
R13, R14, R26—10,000 ohms.
R17—56,000 ohms.
R18—15,000 ohms.
R19—4,700 ohms.
R20—1,200 ohms.
R21—20,000 ohms.
R22—6,800 ohms.
R24—470 ohms.
R25—4,300 ohms.
P1—10,000 ohms.
P2—2,000 ohms.
P3—1,000 ohms.
C1—20,000 pF.
C2, C11—5,000 pF.
C3, C7, C8, C10, C12—0.1 μF.
C4—240 pF. (plus 80 TK, mica).
C5—40 pF. (minus 750 TK, ceramic).
C6—500 pF.
C9—0.5 μF.
C13, C16—100 μF.
C14—10,000 pF.
C15—10 μF.
C17—50 μF.
C18—300 μF.
C19—80 μF.
C20, C21—500 μF.
L1—Number of turns according to coupling required.
L2—0.3 mH.
L3, L4—0.9 mH.
L5—0.9 mH. (tap at one-third).

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20- ,, ,, (14.0 - 14.4 ,, )
40- ,, ,, ( 7.0 - 7.3 ,, )
80- ,, ,, ( 3.5 - 4.0 ,, )

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5: 40 - 100 ,,
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"G" Grid Dip Meter.
"W" Absorption Wave Meter.
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Consumption: approx. 10 VA.
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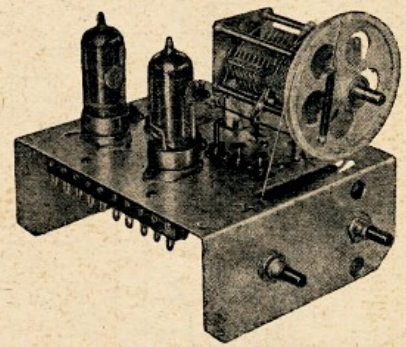

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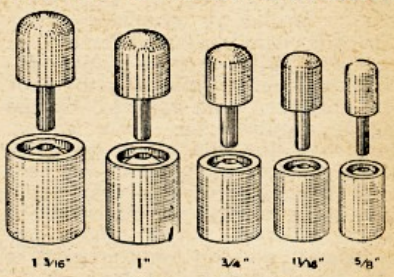


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shown for the oscillator being dealt with, namely Hartley-type with centre-tap, at a temperature of about 27°C. or about 80°F. The static stability factor is identical to the normal stability factor S. If resistance stabilisation is not utilised, its value is given by

$$S = \frac{1}{1 - a} \quad \ldots\ldots\ldots\ldots \quad (2)$$

Substituting values of circuit and transistor characteristics, eq. (1) yields N = — 0.00005 for the oscillator under discussion.

For capacitance stabilisation, an overall temperature coefficient should be about — 0.0002 per deg. centigrade. Therefore, the total circuit capacitance comprises a mica condenser of 240 pF. at a positive TK of 80 and a ceramic condenser of 40 pF. at a TK of —750 TK units.

The output circuit of the mixer is capacitively coupled to the base of an i.f. stage on 75 Kc., equipped with another OC73 in common-emitter connection. Due to the straightforward type of circuitry, a detailed discussion does not appear to be necessary.

## DEMODULATION AND S METER

Referring to what has been said on a.v.c. requirements, two Germanium diodes of ordinary type serve as detector and a.v.c. diode, respectively. The coupling to the last i.f. resonant circuit being inductive by means of L5, the a.v.c. is taken from the full winding with R10 as load resistor. Use of only a part of this secondary winding is made for the detector diode D2 with R16 as load resistor.

A somewhat elaborate S meter circuit measures the d.c. signal across the load resistor of the a.v.c. diode. This stage actually comprises a transistorised d.c. amplifier[6] of the type designed by the author for various professional applications. The two transistors OC71 form a bridge with the instrument as bridge indicator. The potentiometer P1 allows the sensitivity to be adjusted while P2 determines the zero point. The instrument is of normal type and should have a full-scale sensitivity of about one milliamp. at an internal resistance of approximately 1,000 ohms.

## THE AUDIO AMPLIFIER

Although this audio amplifier represents a part of a Q5-er, it is designed as a perfect Hi-Fi circuit with an absolute minimum of distortion and a wide frequency response. The transformerless circuit is a new design using a particular type of output coupling in order to obtain a power output of 0.5 watt in Class A operation at the required d.c. stabilisation.

If reference is made to normal design procedure[2, 7] the calculation of components for the two pre-amplifier stages can be regarded as normal and straightforward. The driver employs an OC72 in common-collector configuration and the output stage is equipped with an OC30 in the same configuration. The loudspeaker system (approx. 5 ohms) is directly connected in series with the emitter lead. A new advantage of this circuit is the combined control of audio volume and d.c. consumption by potentiometer P3. Varying its sliding contact towards ground reduces the audio signal component at the base of the OC30 as well as its d.c. operating potential, thus automatically decreasing the collector current of the OC30 in the correct proportion. As this collector current represents by far the largest consumption in the whole receiver, this regulation is an important feature.

It should be noted that in this circuit the operation of the driver is critical up to a certain extent. The value of the current amplification in common-emitter connection, or the "beta", of the OC72 should be relatively high, i.e. of the order of 80. A compromise had to be adopted in the design of this stage, because the employment of another medium power transistor, such as the OC30, did not appear to be justified. Thus this OC72 operates under somewhat critical conditions with a value of S in the vicinity of 20, much higher than anything recommended previously[3], even for audio stages. If operating conditions are subject to large variations of ambient temperature, the OC72 should be replaced by another type.

As far as construction is concerned, both OC30 and OC72 have to be mounted such that a maximum of heat is radiated. The OC30 requires a heat-sink of an area of about two square inches and a thickness of 0.1 inch, while the OC72 should be mounted by means of the heat-sink clips provided by the manufacturer.

Attention is drawn to the fact that it is hardly possible to achieve electric insulation between the OC30 collector and a heat-sink without undesirable thermic insulation. Thus the best method seems to be an insulation of the heat-sink, complete with OC30, from the chassis, unless this is identical to the negative battery connection.

## GENERAL COMMENTS

At the conclusion of this description of the Q5-er it appears to be appropriate to express some remarks on the general behaviour of transistors. After little more than a decade, the transistor, and particularly the junction transistor, occupies an important place in electronic development. There is hardly any electronic device which cannot be "transistorised". With the steady progress in transistor production, new applications can be foreseen and new circuits will be developed. Nevertheless, there are a few shortcomings, and in design work as well as in the actual application it serves to be aware of them. For instance, it is essential to know to what degree the characteristics published for a certain transistor can be relied upon. Apart from the well known fact that temperature has a marked effect on the instantaneous operating conditions of a transistor, there may be a more or less wide spread of data for transistors of the same type. In such cases the characteristics published refer to average data.

Some manufacturers have almost overcome this obvious disadvantage by carefully selecting transistors before delivering them to the market. Groups of such selected transistors display relatively small spread of "beta", the current amplification factor in the common-emitter configuration, and are then indicated by a different number. For any serious design work this "beta" or the value of "alpha" (= current amplification factor for common-base connection) must be known. Both are related to one another by a constant relationship.

Referring to the circuits discussed and described in this series of publications on transistorised communication receivers, the average value given by the manufacturer has been used as basis of calculation, unless indicated otherwise. All circuit values have to be modified, if transistors of different characteristics are utilised. For this reason, it is definitely recommendable to check at least the d.c. characteristics of each transistor before mounting it.

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1—Hans J. Albrecht, "Transistorised I.F. Amplification," "A.R.," Vol. 26, No. 11 (1958).
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3—Hans J. Albrecht, "Temperature Compensation in Transistorised Receivers," "A.R.," Vol. 26, No. 6 (1958).
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6—Hans J. Albrecht, "Transistorempfanger fur MeBzwecke," "Elektronische Rundschau," Vol. 12, No. 9 (1958).
7—Hans J. Albrecht, "Transistors in Speech Equipment," "QST," Vol. 41, No. 9 (1957).



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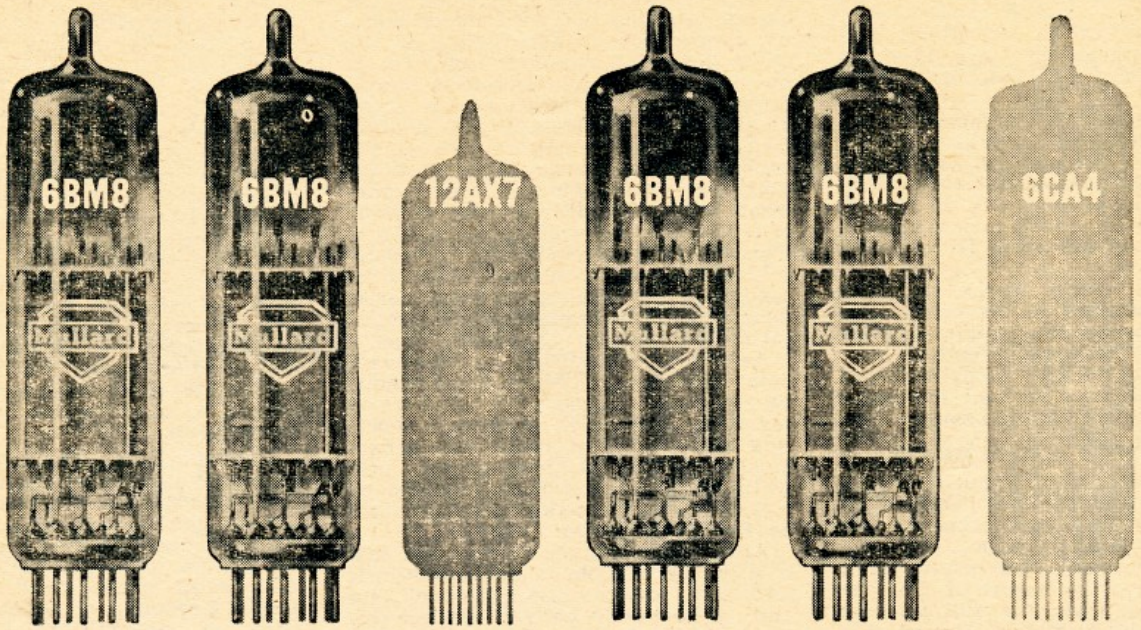


## 6BM8/ECL82

**TYPICAL OPERATING CONDITIONS**

| | | |
|---|---|---|
| **Single valve class 'A'** | | |
| $V_a$ | 250 | V |
| $V_{g2(b)}$ | 250 | V |
| †$R_{g2}$ | 2.2 | kΩ |
| $I_{a(o)}$ | 28 | mA |
| $I_{g2(o)}$ | 5.5 | mA |
| $I_{g2(max.\ sig.)}$ | 10.5 | mA |
| $V_{gl}$ | —22.5 | V |
| $R_k$ | 680 | Ω |
| $V_{in(r.m.s.)}$ (Pout = 50mW) | 780 | mV |
| $R_a$ | 9.0 | kΩ |
| $V_{in(r.m.s.)}$ | 9.5 | V |
| $P_{out}$ | 3.4 | W |
| $D_{tot}$ | 10 | % |
| **Two valves in class 'AB' push-pull** | | |
| $V_a$ | 250 | V |
| $V_{g2(b)}$ | 250 | V |
| ††$R_{g2}$ | 2.7 | kΩ |
| $I_{a(o)}$ | 2 × 21.5 | mA |
| $I_{a(max.\ sig)}$ | 2 × 27.5 | mA |
| $I_{g2(o)}$ | 2 × 4.2 | mA |
| $I_{g2(max.\ sig)}$ | 2 × 9.2 | mA |
| †††$R_k$ | 390 | Ω |
| $V_{in(gl\text{-}gl)r.m.s.}$ | 38 | V |
| $R_{a\text{-}a}$ | 10 | kΩ |
| $P_{out}$ | 9.0 | W |
| $D_{tot}$ | 5.0 | % |

† Undecoupled screen-grid resistor.
†† Common screen-grid resistor undecoupled.
††† Common cathode bias resistor.

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# SIMPLE SIDEBAND*

## PARTS ELEVEN AND TWELVE

LESTER EARNSHAW, ZL1AAX

### I.F. FILTERS FOR S.S.B. RECEIVERS

In this country to obtain a suitable filter with sharp skirts and a flat top is not easy. Yet, the problem is not insurmountable. For those who have mechanical filters—and there are a few—the connections to the i.f. strip of the receiver described last month are as shown in Fig. 1.

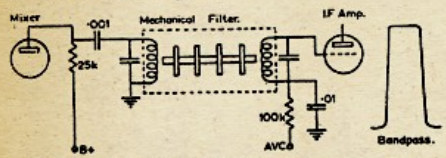



Fig. 1.—A mechanical filter may be used with the receiver described last month.

Fig. 2 shows the circuit of a filter using 455 Kc. i.f. transformers. I recently built one of these using four transformers back to back and coupled together with only 1 pF. of capacitly. The coupling condensers are made from hook-up wire—two pieces twisted together, about two or three turns. A filter of this type, even at 455 Kc. will shave QRM right off a signal. Though it will not allow you to select sidebands one at a time without some interference from the unwanted, the unwanted will be well down. You may easily check this by getting an s.s.b. station to switch to the other sideband.

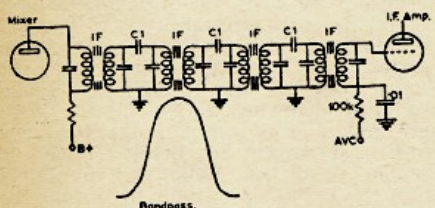



Fig. 2.—A block of flat Philips' i.f. transformers connected back to back, coupled together by only a few pF. capacity, will make an excellent filter. C1 made by twisting together about two turns of hook-up wire.

With any selective i.f. system it is absolutely essential that you set the b.f.o. on the correct side of the signal. When copying s.s.b. the receiver is not tuned as for a.m. With a.m. you set the carrier in the centre; if you tune out to one side or the other the signal will become harsh and toppy. With s.s.b. you tune the receiver not to the centre but to one side. The received sideband is now slap in the centre of the passband, so therefore the carrier (the b.f.o.) must be to one side. If the signal won't tune with the b.f.o. on the one side set it to the other. The spot at which it should be set is quite critical if the filter is sharp.

Fig. 3 shows a crystal filter known as the half lattice. This filter is ideal for s.s.b. My own filter consists of three sections of half lattice and in addition it has two filters connected shunt-wise, i.e., across one of the i.f. transformers. These crystals help to suppress "pop-up" or sidelobes. It is not my intention to spend much time on crystal filters because the subject has been well covered in the A.R.R.L. and "CQ" Sideband Manuals and builders are well advised to purchase these. A word of warning though: crystal filters are tedious to adjust if you would get the best out of them. To get sharp skirts, flat top, little pop-up and a good over-all performance requires perhaps hours of adjustment.

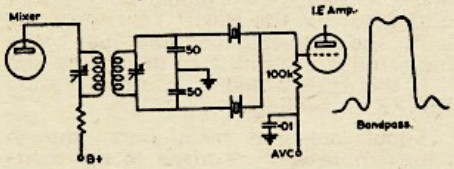



Fig. 3.—A half lattice crystal filter. Several sections may be cascaded to get even a better bandpass. It is recommended that you see the A.R.R.L. S.s.b. Manual for further information on filter design.

### Points When Lining-Up

A few points, fruits from my own labours, I offer:

(a) If the bandpass has a large dip in the centre, use less capacity and more inductance in the secondary side of the i.f. transformer.

(b) If the bandpass has a rounded nose use more C and less L.

(c) A wobbulator used in conjunction with a scope will let you view the general shape of the bandpass but it is generally quite useless to determine skirt shape or pop-up. The scope reads voltage and of course the ratio of voltage, from the flat top of the band pass to the clefts at the bottom, is much too great to be readily presented. This could perhaps be done with a suitable a.v.c. system or compressor. However, it is simple enough to use the S meter in conjunction with a frequency meter and then use the wobbulator to get a picture of the top.

(d) A 6 db. dip in the centre is permissible and in fact will not be noticed.

(e) Not all i.f. transformers lend themselves to filter work without their innards be altered. The Q type 162 with the two condensers connected across the secondary is excellent.

Another filter which will give excellent results can be made from 85 Kc. i.f. transformers. The mixer in the receiver described last month feeds into a second mixer which also has a suitable oscillator fed in to heterodyne the signal to 85 Kc. After passing through several stages of 85 Kc. i.f's. the signal is then fed into a third mixer, mixed with the same local oscillator and fed back into the receiver. The block diagram of Fig. 4 will give you the idea. Though it may perhaps sound complicated, it really isn't and it is an excellent system and can be added to almost any receiver. The low frequency ARC5 (BC453) receiver may be used for this purpose and indeed Cliff ZL-2AHV used this system for some time. The system lends itself to sideband switching, by making the local oscillator operate either on 370 or 540 Kc., switching from one frequency to the other will switch sidebands.

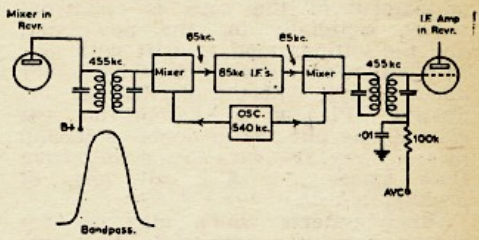



Fig. 4.—Popularly known as a Q5-er, the 455 Kc. i.f. is converted to 85 Kc., passed through a series of i.f's., and then converted back again to 455 Kc. Only one local oscillator is used. The 85 Kc. i.f's. may be taken from the BC453 receiver. The system may be used with any receiver with any i.f. frequency, merely by opening one lead.

It is pointed out that these filters have been primarily designed for s.s.b. or c.w. The i.f's. would need to be staggered for suitable a.m. reception unless the station is actually copied as an s.s.b. signal. However, so many a.m. stations suffer with f.m. and oscillator drift, especially on 80 metres, it is not usually possible to read them with the filter in circuit.

### CRYSTAL CONTROLLED CONVERTER

Fig. 5 shows a crystal controlled converter for use with the receiver published last month. You will note that the converter is quite conventional in almost all respects. But for all that it is worthy of some comment in that its operation is the exact reverse of the heterodyne unit described last month. Whereas, in the heterodyne unit we converted an 80 metre signal to the requisite band by beating it against an overtone type local oscillator, in the

### THANKS TO ZL1AAX

This fine series of articles having now come to an end, the Publications Committee of the W.I.A. wish to express sincere thanks to Lester ZL1AAX for permission to reprint his "Simple Sideband" articles from the N.Z.A.R.T. journal "Break-In".

As Lester's articles have been reprinted in many countries, he has been receiving more than a fair share of letters. Therefore readers are requested not to write to Lester unless, in his own words, "they are desperate."

Having received many requests for the layout, etc., of his receiver (described last month), Lester forwarded a photograph of same for publication; this has been included in this issue.—Editor.

* Reprinted from "Break-In," March, April, '59.

converter we convert the incoming signal to 80 metres. The local oscillator frequencies are the same in both cases and, in fact, you may if you wish use the one oscillator to do the two jobs.

The remainder of the converter is straight forward and similar converters have appeared in journals from time to time. We will not discuss it further except to state that in my own opinion a crystal controlled converter is essential for easy 20, 15 and 10 metre s.s.b. reception.

### A SUMMING UP

Perhaps I may have given the impression that in the generation of s.s.b. the two-coil method of obtaining the 90° r.f. phaseshift is the only method and I have in fact been taken to task on this point. Far from the case; I have myself used seven different methods. If I gave the other impression it was inadvertent. To describe all the various methods there are would require a book of some considerable volume.

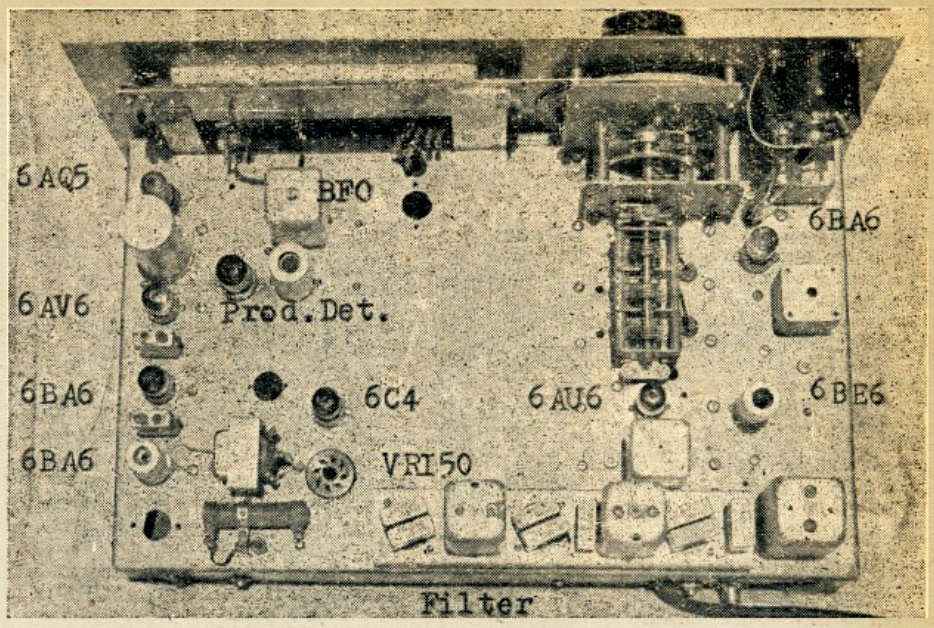
I described the most popular method in use in the U.S.A. The two-coil method is used by the world famous 10A and 20A exciters made by Central Electronics and is well proven. Secondly, most of the available literature from which an exciter may be built is based around the two-coil r.f. phase shifting device. The system lends itself for use with diode type balanced modulators which is a very distinct advantage, and yet, at the same time, it has quite high output. It is well to know though that it does have several disadvantages. The adjustment of the coils is somewhat tricky, especially for the newcomer, and the settings tend to drift with age. In addition, the coils are most particular about strays, where capacitive or inductive. Placing a bottom on the chassis may put you in double sideband in a big way; feedback to the coils from later stages may give all sorts of peculiar effects.

Other systems which may use resistance/capacitor networks (R/C), inductance/capacitor (L/C), or combinations of R/C/L, may all give truly excellent performance and should not be overlooked. You may even use a quarter wave length of transmission line properly terminated in resistance to get the required shift through a quarter wave length at 80 metres may make a somewhat cumbersome transmitter to say the least! To reduce the bulk the transmission line may take the form of a terminated delay line and it is this system that is in use at station VK2ZF in Sydney.

About balanced modulators; though I may quite well be alone in my opinion, I feel that multi element tubes in the **phasing rigs** are to be deplored. I have not yet heard, or have been able to construct, balanced modulators using multi element tubes that did not allow the persistent and annoying creepage of carrier. Diode balanced modulators, because they are low impedance, offer a good measure of stability. If you are embarrassed still by the creepage of carrier, this more than likely will be due to one of the following: Crystal oscillator operated at too high a voltage; unstable power supply; feedback from later stages; r.f. being allowed to escape past the balanced moulators from the crystal oscillator to the amplifier stages. I strongly recommend that the entire supply be regulated by two VR tubes in series and that the B+ be not more than 255 volts. I take it for granted that you will attend to the shielding.

Whether you use semi-conductor or vacuum tube diodes is a matter of personal choice. If you use germanium diodes use only good ones. Cheap diodes proved most unstable in various set-ups used at this station. In general, shilling for shilling, I think the best results are obtained from the tubes.

Concerning the audio equipment, builders of s.s.b. phasing exciters should restrict the bass notes. This is more important than may be realised. In many cases the flutter, growl or low whine on the speech may be attributed to an excess of bass. If the receiver has good selectivity or poor bass response this may not be noticed but it is well to remember that most Ham receivers in this country are poor receivers when measured by today's requirements. A station that has restricted speech, provided that it is not overdone, is a pleasure to tune. If the station has restricted the top it will be obvious that he will occupy less




Photograph of the receiver described in Part Ten of the Simple Sideband series published last issue. It is reproduced here after a large number of enquiries were received for layout drawings, etc. The i.f. filter is along the back of the chassis. I.f. amplifier at one end, r.f. and mixer other end. Space in the centre is for a converter. Various holes are the result of much experimentation in initial design. The VR tube was missing from the octal socket when photograph was taken.


# SINGLE SIDEBAND ENTHUSIASTS

**A.R.S.5. PHASING TYPE 9 Mc. S.S.B. EXCITER**

This unit is intended to drive a Power Mixer (2E26, 6146, etc.). We recommend this type where it is desirable to provide power to a p.a. stage for use under normal Plate Modulated A.M. conditions as well as either S.S.B. or Phase Modulation. **Valve Compliment**: Half 12AT7, xtal osc. (8.75 Mc.); half 12AT7, audio output; 12AT7, audio amp.; 12AT7 phase splitter; two 6AL5s, balanced modulators; 6BA6, linear amp.

**A.R.S.5A.** Similar to A.R.S.5 except that a low level mixer stage is included, providing output on all bands when mixed with external mixing voltages. This unit is preferred where S.S.B. and P.M. are required only. **Valve Compliment**: Same as A.R.S.5 except the 6BA6 linear stage is changed to a 6BE6 mixer.

**A.R.S.59. 7 Mc. Mobile S.S.B. (Phasing Type).** Frequency range: 7070-7150 Kc. xtal. Power output, 80 watts peak. Provision included for P.M. **Valve Compliment**: Same as A.R.S.5 unit with the addition of an 807 "ZL" Linear and 6BJ5 clamper tube. This unit is primarily designed to fit neatly into the glove box of a Holden car. Available in either 6 or 12 volt. Power supplies and xtals not included.

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room on the band. This applies to a.m. stations equally with sideband (two-fold actually, the a.m. has two sidebands).

A few weeks back I heard an a.m. station state that the audio equipment he was using was hi-fi and he was quite proud of the fact. I measured his bandwidth and although he was not fully modulated, he was 20 Kc. wide! What he gained from this I am not able to understand, for most Ham receivers are anything but hi-fi! Later I measured an s.s.b. station who was using restricted speech and his detectable bandwidth was 2.8 Kc. However, I am not in favour of a speech so restricted, it sounds as though the operator is either being slowly strangled or alternatively, that he has his head in the milking bucket. 300 to 3,000 cycles is an accepted good standard.

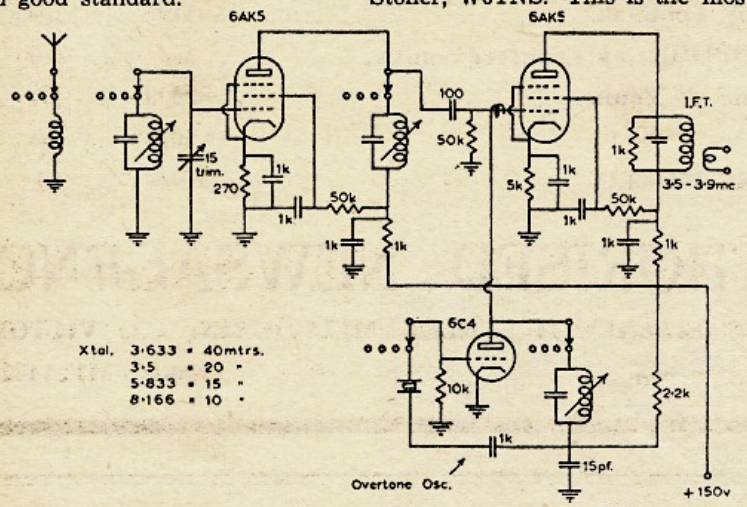


Fig. 5. Suggested Crystal Controlled Converter.

It is not always realised why amplifiers, when they are not operated Class C, quite often aspire to be oscillators. When operated Class C, grid current is always drawn and therefore the grid impedance is low. Figures of 1,000 to 5,000 ohms are usual. This means that your tuned circuit is effectively shunted by a resistor of this value. No doubt, many s.s.b. would-be-oscillator amplifiers, were they shunted with a resistance of similar value, would find their enthusiasm damped to the point where they acted as true amplifiers.

Loading of the final is far more important in s.s.b. than in a.m. If you don't load heavily, you will be unable to turn up the "wick" without splatter or flat top. But don't forget, that through incorrect adjustment or perhaps poor loading, you may quite well flat top in a driver amplifier. It is just as important that these stages be correctly operated.

Further to the ZL Linear, a number of stations in many countries are using the amplifier and the principle has been applied to many different tube types. But to bring a discordant note, many are inclined to overlook the fact, even though this amplifier is not overfussy about its operating conditions, it still has a breaking point. One person (may he forgive me when he reads this) ran, and may still run, 17 grid mils. to an 813! The ZL Linear is **not** a Class C amplifier. When the grid current indicates that the operation is Class C, the amplifier is splattering badly.

Of great interest to s.s.b. Hams will be the recently published "CQ" Sideband Handbook written by Donald Stoner, W6TNS. This is the most comprehensive manual I have yet seen on Amateur sideband. My one complaint is that the phasing method did not get the coverage I would like to have seen, but this is no doubt due to the ease with which W stations may buy filter equipment.

All things even, this must reach an end. I quite proudly feel that the series has, perhaps in no small measure, helped a number of Hams enjoy the wonderful advantages of s.s.b. Quite recently, whilst on 20 metres I was called by a W who claimed I was responsible for getting him on sideband. Once I had realised that he wasn't going to take me apart I felt, as I have felt on many occasions now under similar circumstances, that it has all been worthwhile. What better reward than to have someone tell you he is using a piece of equipment you described, or better perhaps, designed?

### ERRATUM

Two errors appeared in the circuit of the receiver described in Part Ten of the Simple Sideband series in the last issue.

In Fig. 3 on page 6 a 15 pF. condenser should be inserted between R1 and the top right hand side connection of the filter, exactly as shown on the left hand side, so that if i.f. transformers are used as the filter the selectivity switch does not short out the a.v.c. through R1.

In the continuation of Fig. 3 on page 7 the grid of the 6C4 meter amplifier should connect to letter "E" and not to letter "A".


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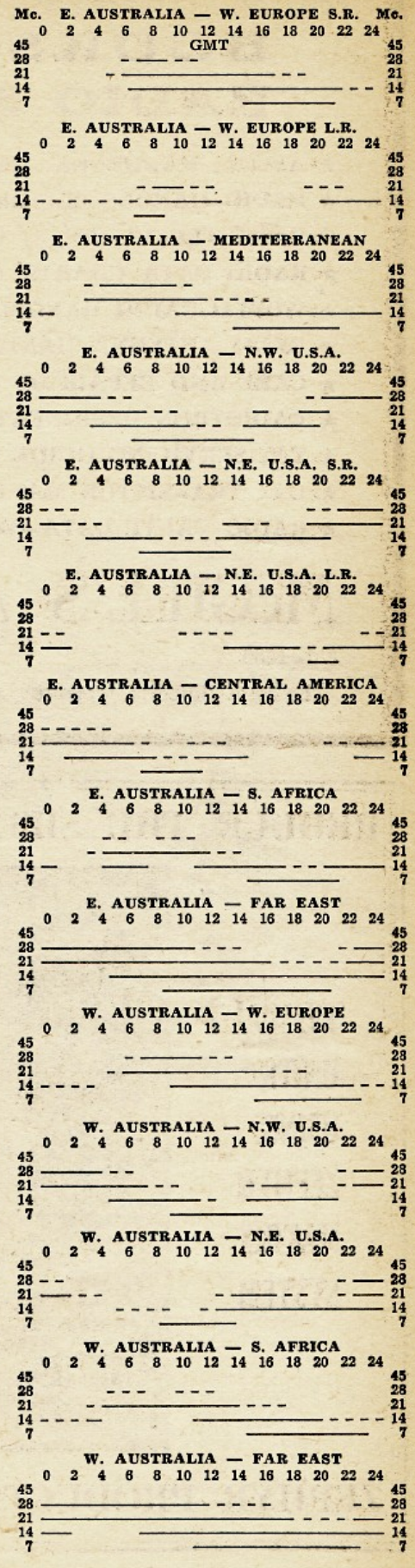

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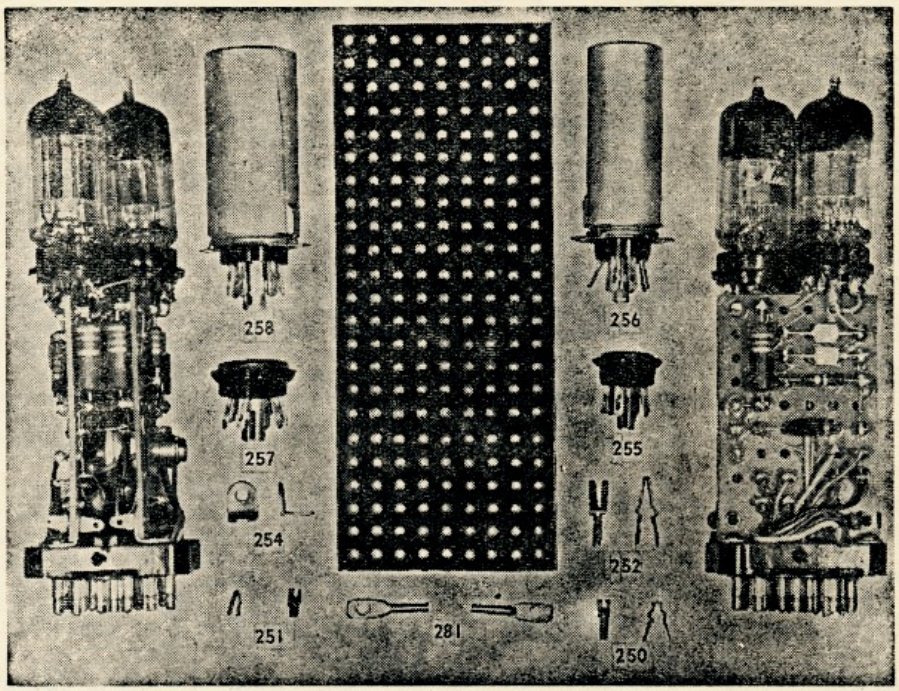


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# JOHN MOYLE IN GENEVA

John Moyle, VK2JU, the W.I.A. official representative with the Australian Delegation to the Administrative Radio Conference of the International Telecommunications Union in Geneva, arrived in Switzerland on August 14 to attend the Conference.

The first week or two was one of feverish activity, organising introductory sessions to set up machinery, elect officers to the various working committees, of which there are eight in all, and generally set this vast meeting of internationals in motion.

Of the eight Committees, No. 4 is the important one to the Amateur Service throughout the world, being the one dealing with frequency allocations. The chairman of this committee is Mr. Gunnar Pederson, from Denmark, with Mr. E. J. Stewart, leader of the Australian Delegation, and Mr. Oltuskiy Ozaki, from Cuba, as Vice-Chairmen.

Committee No. 1 is a Steering Committee concerned with the procedure of the Conference and chaired by Mr. Charles Acton from Canada; Committee No. 2 is a Credentials Committee whose work is self evident and its chairman is Dr. F. Nicobera from Italy; Committee No. 3 is a Finance Control Committee chaired by Mr. George Searle from New Zealand; Committee No. 5 is a committee dealing with frequency legislation and the international frequency list with Dr. M. Joachim from Czechoslavakia as chairman; Committee No. 6 is a Technical Committee chaired by Mr. M. N. Mirza from Pakistan; Committee No. 7 is an Operations Committee chaired by Mr. Enhle from the Netherlands; and finally, Committee No. 8 is a Drafting Committee concerned with the actual wording of conference documents with Mr. A. Henry from France as its chairman.

Committee No. 4, which interests us, commenced its work on the frequency table between 1 and 30 Mc., starting at the low end. As at the last report from John Moyle, the Committee had reached 2 Mc., so we can obtain from this some idea of the time consuming detail with which the Conference engrosses itself.

If a contentious point arises, it is handed over to a "working group" whose duties then are to discuss this particular point and present its report back to the Committee which might adopt it or reject it, when further discussions take place and it could go back to the "working group" for a second time. Finally, the work of all the Committees goes to the Plenary Session and ultimately to the Plenipotentiary Conference which signs the agreements which the communications services of the world abide by until the next Conference.

So far there has been quite unexpected support for an Amateur allocation between 1,600 and 2,000 Kc. and it would appear at this stage that we might expect a "top band" assignment some time next year. Australia has had an assignment in this band for many years but only for emergency purposes since Atlantic City in 1947. The Postmaster-General's Department has never varied its intention to release this band to Amateurs for general usage as soon as Loran services moved out. Insofar as the major Commonwealth airports are concerned, Loran has not been in use for some time, hence at the time of this Conference it appears as though Loran is officially moving out. However, we shall probably hear more about this at a later date.

Before John Moyle left Australia it was evident from the American proposals that the U.S.A. would energetically oppose the introduction of further short-wave broadcasting channels and John Moyle reports that this position still pervades the general atmosphere at Geneva. However, the pressure for commercial frequency assignments in the 3.5 and 7 Mc. bands is, on a world-wide basis, extremely heavy and it is reported that we are unlikely to achieve success in retaining our present allocations if the Conference is prepared to accept changes.

The Australian Delegation advised the W.I.A. before its departure that there was the possibility that the Conference may agree to making no changes at all in the frequency spectrum between 4 and 30 Mc., and John Moyle reports that there is still strong feeling in support of this, despite the fact that the Committee (No. 4) is going right through the frequency table during its discussions.

Apart from attending meetings with the Australian Delegation and the Frequency Allocations Committee, John Moyle has had informal meetings with Amateurs from other countries and discussed the general operation of the International Amateur Radio Union. We will give a general report on this aspect of Amateur affairs at a later date.

Generally speaking, the attendance of a member from the W.I.A. has been well received by other countries and has provided a liaison from Region III. which would never have otherwise been possible. We are looking forward to further reports, details of which we hope to publish in "Amateur Radio," as the Conference works onwards from 2 Mc.

The following Amateurs are attending the I.T.U. Conference:

OE1AD, HB9IA (Act. Secretary-General of I.T.U.), VE2AC (leader of Canadian Delegation and I.T.U. Chairman), G6CL, HB9PJ, DL1XJ, DL3SO, HB9DB, HB9AS, W4CXA/W2BMX, OK1WI, SM5ZD, G6NZ, ZL2ASK, VE2BE, VE3CDL (ex-F7EP), VE3JK, VE3ATU/G3GSK, W1BUD, HB9EL, OH2TK, VK2JU (W.I.A. Representative), W1LVQ, ZS6FE, ZL2VA, DL3DU, W2OGK, K4HXI, W3ASK, W4VVA, EI4N, VK3PI (L. Pearson), VK3KH (E. Anderson), W4GO, YV5DQ, AV5ACF, HB9SI, G6MA, LU9DL, LU6AY, LU3AF, ex-W9YUO, LU7BB, ZL2CC, HB9GA.

Amateurs meet at 6.15 p.m. every Monday at the Bagatelle Cafe, Place des 22, Cantons.

There are no Russian or East German Hams present.

FEDERAL EXECUTIVE, W.I.A.

John Moyle, VK2JU (at right), the W.I.A. official representative with the Australian Delegation, being farewelled by Neville Williams, VK2XV, at Kingsford Smith Airport, Sydney, on his departure to Geneva to attend the International Telecommunications Union Conference.

## WANTED! WANTED!

Applications for post of Federal Secretary of the Wireless Institute of Australia. Applicants must be a member of the Victorian Division of the Institute and have ability to use typewriter. Reorganisation of Executive will limit duties to reasonable manhours. Interested persons please ring the Federal President at MU 2426 without obligation.

FEDERAL EXECUTIVE.

# R.S.G.B. 21/28 Mc. Telephony Contest

## Novenber 21-22, 1959

Radio Amateurs throughout the world are again invited to take part in the popular R.S.G.B. 21/28 Mc. Telephony Contest to be held this year on November 21 and 22.

The rules are the same as in previous years, but the attention of overseas contestants is drawn to the additional bonus for working each additional ten G3 stations irrespective of band. The G3 series comprises the largest single group of U.K. stations. The scoring system is described in detail in Rule 8.

### RULES

1. **Duration:** The Contest will start at 0700 GMT on Saturday, Nov. 21, and end at 1900 GMT on Sunday, Nov. 22, 1959.

2. **Eligible Entrants:** The Contest is open to licensed Amateurs in all parts of the world.

3. **License Conditions:** Entrants must operate in accordance with the terms of their licenses.

4. **Contacts** may be made using any telephony system for which the entrant is licensed. Contacts with unlicensed stations will not count for points. Proof of contact may be required. Only one contact on each band may be made with a specific station, whether fixed, portable, mobile or alternative address. Duplicate contacts must be logged and clearly marked as duplicate without claim for points. Cross-band contact may not be claimed.

5. **Contest Exchanges:** An exchange of RS reports followed by a three figure serial number starting with 001 for the first contact and increasing by one for each successive contact (for example, 58001, 56002, etc.) must be made before points can be claimed.

6. **Operator:** Only the entrant will be permitted to operate his station for the duration of the Contest.

7. **Entries** must (a) be clearly typed or written on **one side only** of foolscap paper; (b) be set out in the form shown in the example below: (c) be addressed to the **Contests Committee, Radio Society of Great Britain, New Ruskin House, Little Russell St., London, W.C.1, England,** the name of the contest being clearly shown at the top left hand corner of the envelope which must be **postmarked not later than December 7, 1959.**

8. **Scoring:** British Isles stations may not work each other for points. Overseas stations may only claim points for contacts with British Isles Stations (G, GB, GC, GD, GI, GM and GW). Scoring will be as follows:

**Overseas Stations:** Each completed contact with a British Isles Station will score five points. In addition, a bonus of 50 points may be claimed for the first contact with each British Isles country-numeral prefix, i.e. G2, G3, G4, G5, G6, G8, GB, GC2, GC3, GC4, GC5, GC6, GC8, GD2, GD3, GD4, GD5, GD6, GD8, GI2, GI3, GI4, GI5, GI6, GI8, GM2, GM3, GM4, GM5, GM6, GM8, GW2, GW3, GW4, GW5, GW6, GW8. **A further 50 bonus points will be scored for each additional ten G3 stations worked irrespective of band.**

9. **Awards:** Certificates will be awarded to the leading station in each overseas country. VE, VK, W/K, ZL and ZS call areas counting separately.

### SAMPLE ENTRY

R.S.G.B. 21/28 Mc. Telephony Contest

Nov. 21-22, 1959. Claimed Score..... Call Sign.....

Name.....

Address.....

Transmitter..... Power Input.....Watts

Modulation system(s) used.....

Receiver..... Aerial(s).....

DECLARATION: I declare that this station was operated strictly in accordance with the rules and spirit of the Contest and I agree that the decision of the Council of the R.S.G.B. shall be final in all cases of dispute. I certify that the maximum watts input to the final stage of the transmitter was.....watts.

Date..... Signed.....

Failure to sign the declaration may involve disqualification of the entry.

Log sheets must be made out with eight columns in the following order: Date and time (GMT), Call sign of station worked, My report on his signals and Serial No. Sent, His report on my signals and Serial No. Received, Band (Mc.), blank column, Bonus Points, and Points claimed. At the foot of page, Total (points claimed plus bonus points).

### RECEIVING CONTEST, 1959

1. **Eligible Entrants:** The Contest is open to Short Wave Listeners throughout the world. All entrants agree to be bound by these rules. Only the entrant may operate his receiving station for the duration of the event. Holders of Amateur transmitting licenses are not eligible to take part.

2. **Duration:** Same as Rule 1 for Transmitters.

3. **Entries:** (a) To count for points, logs must show, in columns: (i) Date/Time GMT, (ii) Call sign of station heard, (iii) Report sent by Station heard, (iv) Call Sign of the Station being worked, (v) Band in Mc., (vi) Bonus Points claimed, (vii) Points Claimed. CQ or test calls will not count for points.

(b) Entries must be set out on **one side only** of foolscap or quarto paper, entries must be postmarked not later than December 7, 1959, and must be addressed to the Contests Committee, Radio Society of Great Britain, New Ruskin House, Little Russell St., London, W.C.1, England.

(c) All entries must contain the following declaration: **I declare that this receiving station was operated strictly in accordance with the rules and spirit of the Contest and I agree that the decision of the Council of the R.S.G.B. shall be final in all cases of dispute. I do not hold an Amateur transmitting license.**

Date..... Signed.....

4. **Scoring:** Overseas entrants may only log British Isles stations for points. A station may be logged only once for the purposes of scoring.

**Overseas Entrants:** Each complete log entry relating to a British Isles station heard will score 5 points. In addition a bonus of 20 points may be claimed for the first station heard in each British Isles country-numeral prefix, i.e. G2, G3, GM4, etc., and a further bonus of 50 points will be scored for each additional ten G3 stations logged irrespective of band.

5. **Awards:** Certificates of merit will be awarded to the leading entrant in each country.


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# D X

**John C. Pinnell, VK2ZR**
15 Summit Avenue,
Earlwood, N.S.W.
Phone: UW 4248.

I have done my best to put these notes together this month but my efforts were a little cramped due to my annual holidays taking up the first week of the month. We did about 1,500 miles up around the north-west of N.S.W. Long sky-wires and a familiar looking beam attracted me to a house on the wayside which turned out to be VK2AKC, and the place Tomingley. It was Sunday and the W.I.A. broadcasts were coming through very well. What a location for the DXer, no man-made QRM, just clear loud signals.

Most of the bands had their moments during the month but the 20 mx band was really good. Europe could be worked for several hours each day; from 0500 to 0800z and again from 1930 to 2200z. Conditions on 15 mx are showing marked signs of improvement.

## NEWS AND NOTES

A group of Amateurs are with an aerial survey company in Afghanstan. Most of them are on high mountains ranging from 10,000 to 16,000 feet high. The locations have winds up to 100 miles per hour, and 60 m.p.h. is quite common for days on end; with freezing temperatures mostly at night. They expect to be there until the end of October.

YA1IW is using both phone and c.w. on 10, 15 and 20 mx. His home call is K6IWG, and was formerly W7ORZ, plus HC2IW, HC6IW, and K6IWG/HC last year. Operating times: 0100 to 0300z and 1200z to 2400z.

YA1PB operates on 20 mx phone only from 1200z to 1400z. YA1TD is on 10 and 20 mx phone.

QSL QTH is YA1PB, via KH6OR or ZS6BW; YA1TD, via 1937 Lucas St., San Fernando, California. YA1IW, via W6DXI.

Some of the group are making an effort to go on a DX-pedition into Bhutan (AC5), Sikkim (AC3), and perhaps AC4 or JT1 if they can get permission to operate and arrange for suitable transmitting gear.

Mac **PY7SC** is stationed on Fernando de Noronha. He will be there for several weeks and perhaps longer. Operation is generally on week-ends and only on 14 Mc., around 14300* Kc. s.s.b.

**OH3PB/O** on a.m. phone and **OH3TH** on cw.. operated from Aaland Island for about a week during the last three days of July and the first three days of August.

Dick **KV4AA** says as soon as the Yasme Foundation charter is signed by the directors, and Danny Weil can raise a little more money, Danny will be back on the sea ways again. His first stop will probably be Galapagos Islands, HC8.

**I5GN** is very active from Italian Somaliland on 14 Mc. s.s.b. He is usually on 14305 Kc.

**Brunei:** Bruce VS5BY closed down his station and is returning to New Zealand. VK QSLs should go via ZL3AB.

The following stations are on s.s.b.: HS1B, VU2RX, and VU2RM.

ZL4JA, still in New Zealand after a tour of duty in Brunei as VS5JA, is now ready for his new assignment in Iraq. He is going to try for an Amateur license arrangement, which may mean the clearing of the State Department ban on this rare country (W1ICP).

Ramon **EA8CF**, of the Canary Islands, has QRT for about a year while he returns to Spain. He expects to return to the Canary Islands in June 1960 (W3QIR).

The only ZC4 station in Cyprus presently active on s.s.b. is ZC4BE, ex-G3BLE. Jack is active on about 14300 Kc. around 1800z most days.

9N1AC, from Nepal, is on occasionally around 1500z on about 14300 Kc. He is running about 800 watts on s.s.b. It's no use calling him on c.w. as it is understood he does not know the code. 9N1AA is off the air because of power transformer trouble. W1CJ/3 and several others will be active from there later this year on both 15 and 20 mx.

From VK3AOM: **HK7LX** told me that he and **HK4AB** would soon be going on a DX-pedition to Malpelo Island, off the coast of Colombia. He said that there had never previously been any station operating from there.

From VK2JJ: Received from the Central Radio Club, Moscow, regarding the power, frequency, etc., used by Amateurs in the U.S.S.R. Their frequency allocations: 1.715-1.8 Mc., 3.5-3.6 Mc.; 7.0-7.1 Mc.; 14-14.4 Mc.; 21-21.45 Mc.; 27-28 Mc.; 38-40 Mc.; 144-146 Mc.; 420-425 Mc.; 1470-1520 Mc., 5650-5850 Mc. Their frequency allocations (especially 14 Mc) might be of interest now that we stand to lose more of the 20 mx band.

## ACTIVITIES

**7 Mc. C.w.—2QL:** FB8CJ. **L2022:** DU6IV, DU7SV, F9MS, HC4IE, JA1DN, K2QEO/MM, KP4AOO, SP6AAX, SP8HU, UA4HN, UB5FJ, UB5UW, VE7IO, VP9EU/P, SP9GJ. **BERS195:** DM3XHO, GB2AC, F9RS, G3IMV, HB9HY, HA5KFT, I1AMR, LA3XG, JA7IL, LZ1KSP, OH7NF, SM3BTU, SP3OR, UA4KED, UB5WD, UC2KAR, UQ2KAA, VS1EA, YO7DZ, YU3UQ.

**7 Mc. Phone.—2AQJ:** WA6BLJ/4* (s.s.b.). **3AOM:** VR2DK*. **L2022:** VR2DI. **Mac Hilliard:** VR2BC.

**14 Mc. C.w.—2QL:** VQ6LQ*, VP9DM*, VQ-9AIW*, FG7XC*, EA9IA*, EA8CF*, GC2FMV*, KG1FN*, HH2LD*, HH2JV*, ZS7M*, 3A2AE*, 9M2GE*, EA8CP, UG6AB, ZS6IF, ZP5LS, 7G1A. **2ZR:** EI9AG*, DL9TJ*, F8SH*, G3GQS*, HA-5KFR*, HC2IU*, HB9UE*, I1FT*, LA6U*, LU-3ZX*, OE5RI*, OH1SN*, OK2KGE*, ON4ID*, OZ1QM*, PA0VB*, SM5AJU*, SP9DT*, UA-3UQ*, UB5CW*, YU3DZ/P*. **4DO:** W/Ks*, KH6s*, EA8BF*, FB8ZZ*, F3NB*, HA5KFR*, HH2LD*, I1II*, LZ1KBA*, UA0KFG*, UA0KIA*, EA5BA, EA8CG, FF8BZ, HC2IU, HC4IE, LU-4DGM, SP8HU, UA3GC, VQ6LQ, ZP6LS. **BERS-195:** CE8AA, CX5CO, CR9AH, EA8CG, FK8AI, FO8AC, GB2AC, HC2IU, HH2GR, HP1AO, KC-4USK, KH6BDV/KJ6, KZ5RQ, K6QPG/KW6, OH0NC, PX1PF, PY4CB, UD6AM, VE8DX, VK-9RH, VK0CC, VR2DR, XE1AAI, YJ1DL, YV5AO, ZC4CS, ZK1AK, LA4YF/MM, JA7KH/MM, K5ITN/M, K8LAU/MM, W4YY/MM, 8J1AA. **L2022:** HC4IE, HC4IU, EA8CG, VR1B, 4S7FJ.

**14 Mc. Phone—VK2AQJ s.s.b.:** G2MF*, G2FN*, G3HJK*, G3FIH*, G3MY*, G5RV*, G5US*, GW-3EHN*, GW3LLU*, JA3MD*, I1RM*, OA2PK*, OA4IZ*, KA7OT*, KR6MW*, F8PI*, HB9SI*, HB9PQ/MM* (near Hawaii), XE1CP*, VE8OL* (Baffin Island), YV5AY*, PA0RE*. **3AOM:** CT-1GE*, G6XN*, HK7LX*, ON4IS*, VE3DDI*, AXS*, IP*, CHT*, VE7TR*, VR2DP*, VR2DK*. **4DO:** W/Ks*, KH6s*, YV4CI*, YV5AY*, G2PU, VEs, VP2DA. **BERS195:** ZK2AB, YV4CI, 9M-2DQ, FK8AU. **L2022:** VP9G, FK8AU. **L3065:** ZLs, G2AMG, VR2DA, VK9s, Ws. **Mac Milliard** DL4RY, ZS6OY, 9M2DQ.

**21 Mc. C.w.—2QL:** VQ3CF*, VQ2JM*, 5A5TO*, CN8IT, CT2AI. **2ZR:** CT1UD*, DL1KK*, G3LZF*, I1ZL*, KP4AZ*, OA3D*, UA4HC*, UA0GF*, VE7FG*, VQ3GC*, 4S7FJ*. **4DO:** KH6s*, W/Ks*, XE1AAI*, VEs, DU7SV, FW-8AW. **L2022:** CT1ID, EA5BA, FA8BG, FA8CR, IT1TAI.

**21 Mc. Phone.—4DO:** W/Ks*, KH6s*, VK9RH, VP1EE, VR4BW. **L2022:** PJ1NY, MP4QAO, VQ-4DT, VR2BC, YV5HT. **Mac Hilliard:** Gs 2PL, SB, 3LIL, JAF, HT, 5JN, BS, 6XN, 8TY, JM, OA4GH, CO2US, YV3CM, F9SE, FA8CF, CN-8EH, I1SM, UA, GX, DL4MW, IQ, FB8XX, OD5CI.

**28 Mc. C.w.—2QL:** JAs*, Ws.

**28 Mc. Phone.—Mac Hilliard:** JAs, ZE1JJ, ZS1AX.

### QTH's YOU MAY NEED

**XE1AAI**—Ruben, P.O. Box 63, D.F., Mexico City, Mexico. (BERS195)

**VU2CE**—Police Radio Office, Madras, Zone 4, India.

**HC2IU**—Heinz, P.O. Box 5200, Guaya Quil, Ecuador.

**YV5AY**—P.O. Box 2285, Caracas, Venezuela. (VK2AQJ)

**OA4IZ**—P.O. Box 538, Lima, Peru.

**OA2P**—P.O. Box 235, Trujillo City, Peru.

**VE8OL**—Cape Farrow, Baffin Island; Postal C/o. F.E.C., Montreal Airport, Quebec, Canada.

**KG1FN**—Via W1IJD.

**3A2AE**—Via R.S.G.B.

**CN8FJ**—Box 2060, Casablanca, Morocco.

**CP1AM**—Maj. E. M. Downing, 304 Georgena Curve, Montgomery 5, Alabama, U.S.A.

**EL4D, EL4F, EL4J**—Letourneau-Liberia, Roberts Field, Liberia.

**HK3QV**—P.O. Box 5954, Bogota, Colombia.

**VS5JA**—To ZL4JA.

**VP9ET**—U.S. Naval Facility, Navy 138, F.P.O., New York, N.Y.

**VQ8AV**—Vacoas, Mauritius.

### QSLs RECEIVED

**VK2AQJ:** XE1CP, TG9PS. **VK2QL:** 9M2GE, CE0ZA, ZD2KCH, JZ0DA, UN1AE, UL7HB, DL7AH/LX, HK4JC, VS5AD. **VK2ZR:** FF8BX, FQ8HA, VQ3HD, VQ5EK, UP2KBC, UP2NM, LU5ABL. **BERS195:** FM7WU, KH6BDV/KJ6, LU2HBM, PY7JL, UA1OZ, UB5WK, UC2BG, UD6AM, UQ2KBR, VE8MX, VQ2EW, XZ2GM, ZD2GUP, ZS6AUL, 4X4LH, VP8EP, VK0DA. **L3065:** HL9KS.

My thanks go to: Don Chesser, W4KVX, for the use of his DX Magazine via VK2QL. This magazine is published almost weekly; not less than 40 editions a year. It covers all activities in the DX world. Bud 2AQJ, who says he always reads the DX page with great interest and so figured it was high time he helped out a little by sending along some information. His list of s.s.b. activities should interest all those using this mode of operation. Times of operation mainly between 0500 and 0750z, a bit early for most of us. 2QL as usual seems to get among the "good ones" and on low power, too; about 40 watts. George 3AOM thanks for the list and kind thoughts. 4DO, have a good trip to Brisbane Hal, your notes appreciated. BERS195, Eric says he is on temporary transfer to Wynyard, Tasmania, for 3 or 4 weeks so won't be logging much for the month. However, he had a great haul for August and says a spell from it won't be out of place. Don L2022 has been concentrating on 40 mx with good success. He did a good job on three bands in the R.D. Contest. Sorry if I missed you Don on the dates given but was away on holidays myself at those times. Ian L3065 is very pleased with a confirmation from HL9KS, not bad; I did work a few HLs but all were phonies until I got HL9KS. Welcome to the page Mac Hilliard, you are doing a good job with the 888 rx and 6GU Tribander. Will be with you again next month.

— . . . —

# BRITISH TWO-CALL CLUB

The British Two-Call Club was formed early in 1950, to cater for the interests of the ex-overseas and Forces Amateur Radio operators out of a suggestion made by G2DHV to G2MI.

It is a club run on similar lines to the Tops C.W. Club, with membership scattered over the British Empire although most of its members live in the United Kingdom; hence it is a club but not in the normal sense of having regular local meetings, but gathers its information on members' activities through the Hon. Gen. Secretary and is passed on to the members through the club's quarterly newsletter "QTC". To which means the annual subscription is kept low, namely 2/6 per year; roughly being divided in half with the cost of running the club in such matters as stationery, certificates, postage, etc.

The club is non political, non commercial and is run by the Hon. Gen. Secretary on members' suggestions with their majority vote on all essential matters arising. The club elects a President and Vice-President annually, who are also available for advice; the club also organises Forces and ex-Service sections' activities.

Many well known overseas Amateur call signs are among the membership, which at present stands at nearly 200, and enables track of them to be kept as well as ex-Forces personnel, in matters of QTH and so the overseas friendships made to be continued as well as new ones made.

Various certificates are issued to members for contacting members call signs, outstanding achievements in contests and services rendered to the club. We are applying for affiliation to certain Amateur Radio organisations in the members' interests; at present we are affiliated to the R.S.G.B. and R.A.F.A.R.S.

As in the Tops C.W. Club, First Class Operators' Club, and similar organisations, the upholding of the tradition "Amateur Radio Spirit" is well marked.

Membership is open to all British or Commonwealth subjects who have or held TWO Amateur Radio call signs, one of which must be held overseas. Application forms can be had on request to G2DHV, G. V. Haylock, 167 Engleheart Road, Catford, London, S.E.6, U.K., who will also be pleased to meet any members personally for rag chews, etc.

* Call signs and prefixes worked.
z zero time—GMT.

# V H F

**Frank P. O'Dwyer, VK3OF**
190 Thomas Street,
Hampton, Vic.

### 50 Mc. BAND

Main DX to the gang north of the VK2/VK4 border with the JAs fairly consistent. 4LK has two sessions a day but is dwelling on Es to provide the kick in life—a chance to hear an Aussie voice on the band and the opportunity for a local chat. Vern missed out on the couple of openings south to VK3 and VK5, but should catch the gang down there soon. HLKA and a few strange carriers kept the boys other than VK4 on the alert, but there were no rewards for most. VK6 had quite a good nibble twice but were sorry to miss the DU who was on the band. Here the scribes tell their stories.

**Victoria:** 50 Mc. activity for August was fair considering the time of the year. On 10th, 3AZY and 3CI heard some JAs. Monday 17th from 2000, the Melbourne stations were among the VK4s during quite an excellent opening. On the 20th between 1900 and 2000, JA sigs were again heard but none were worked. Sunday 23rd, solar noise was high all day and so were expectations. At 2130 the VK4s were in again, both southern and nothern areas were worked at good strengths.

Strong winds during the month played havoc with quite a few of the beams, but in most cases the damage has been repaired. Quite a few were out mobile during the month. New stations out were 3ZBP and 3ZBG. 3ZDU still popping up. 3ZEW heard portable, believed to be mobile as well. New calls heard were 3VT and 3ZDX. 3ZDG has been radiating a sideband signal and has had two-ways with 3SF and 3ALH. 3ALZ soon to enter the competition. 3ZDK back on the band after rebuilding. 3ZGW has returned to the band during the hours the one-eyed monster sleeps. Self trying to tame a modified Command v.f.o.—3ZGP.

**Queensland:** We've had JAs most nights. T.v.i. making inroads on the Brisbane gang, one advantage of living in the bush. Welcome to Les 4EH, hope to see you on six soon and have words again. Interested to learn about d.s.b. rigs under way in other Divisions. Look for me on either 50.4 or 51.6 d.s.b. Bill 4WD having t.v. troubles, 10 feet to the nearest t.v. antenna. Well, you can check for t.v.i. by looking in your lounge room, Bill.

With August came JAs, VK2, 3 and 5. Russ 9XK was worked by Mick 4ZAA, Dave 4ZAX and of course by Max 4HD. Aug. 11, all JA districts except 8 were audible from 1822 to 1922 on F2 type and 2200 to 2300 on TE. Aug. 12, JA1, 4, 7, 9 and 0 on F2 from 1840, maybe earlier, till 1945 and Okito JA4IO from 1946 till the band closed at 1958 on TE. Seems I made a mistake in the July notes (Aug. "A.R."), VK3AHJ was the mobile station worked by 4ZAA, not 3ZAI as stated, sorry I've got to immobilise you, John.

Had an Es opening to VK3, 5 and 7 on 17th for about 2½ hours, 18th again JA districts 1, 2, 3, 6 and 9 from 1800 to 1921 on F2. 20th gave us Es to VK3 and 5 from 1845 to 2115. 21st, JA again from 1745 to 1955. JA4IO most heard station until the band went out in TE. Brief break from 1930 till 1950 on the 22nd, F2 type. 23rd, JA1, 2, 3, 7, and 0 on F2 1740 to 1958, then switched to Es for VK3 and 5 from 2050 till 2145 when I QRT. Believe John 4PU got a "basin full" with Col 5RO, Herb 3NN, Roy 3ZFM and of course Hugh 5BE. How many more, John?

Max 4HD still battling t.v.i., finds open-wire feed line less troublesome than co-ax. Max has worked JA1AEG/JA0 96 times on 50 Mc. to date and has also worked Les 4XJ (Bundaberg) approx. 140 miles direct from Buderin well over 100 times. Les has been heard at 4PU and 4ZBI's at good copy often of late, but not worked.

25th, JA4IO was heard calling VK4RW on F2. 4ZBI worked a few new JAs during the opening on the 26th. They were also audible on TE on 30th and Dane 4ZAX did most of the business. The Brisbane gang were all very quiet, all looking at t.v. or else hunting up t.v. bugs. Fortunately none up here in the bush at 4ZBI's. One benefit of living in remote areas.—4ZBI.

**South Australia:** Activity on 50 Mc. has decreased a little in the past month, though we still get our occasional breakthrough to VK4, openings were 17th, 20th and 23rd. Those heard at this location were 4ZAA, 4ZBZ, 4ZAZ, 4PU, 4NG, 4ZAX and Bill 4WD. There were others, but they were well down in the noise and power leaks.

Heard Neil 5ZDH working them. Neil's home building effort has come to a full stop lately, apparently been spending too much on radio, Neil; a good hobby fellow, but it'll take all the money for those bricks. Mick 5ZDR heard at various times testing on the band. Mick believes in getting the most out of his gear and with his increase in signal strength at this location it appears he is succeeding. Brian 5TN is breaking away from his 10 watts and should be on the air by now with 80 watts to the 829B.

Started calling CQ DX on 50.225 Mc. the other night and who should pop up and say he couldn't hear anything but Ron 5MK. Well I might have guessed that Ron would be around, I think we should give Ron a medal for the most patient listener. John 5ZBA is back from his VK6 visit and is all set for the forthcoming season of v.h.f. activity in his capacity of secretary of that group. By the time these notes go to print the v.h.f. section's programme for the summer season will be organised and the members of this group are promised some interesting 1 and 6 mx fox hunts, picnics and mystery outings, plus some very good technical lectures.

Some very interesting news to hand is that of Peter 5ZDP's effort at voice controlled carrier on 50 Mc. My informant tells me that it works very well and it would appear that Peter is getting all set for the JAs when they come in; nice going fellow, hope you start the rest of the boys thinking about voice control. I understand that voice controlled carrier is being used a lot by the 288 Mc. boys. It should be particularly effective on this band as duplex with mod./osc. takes up too much of the 8 Mc. bandwidth.—5ZAW.

**Western Australia:** The end of August and the beginning of September saw the re-arrival of JA DX on 50 Mc. after two very quiet months in June and July. Sat., Aug. 22 a 2½ hour opening on F2 occurred; Friday 28th saw a 3½ hour TE opening. DU1GF was on the band at the time but was inaudible in VK6. Just what is that "raw" carrier on 49.75 Mc.? There have been suggestions that it could be Russian t.v. A survey made here unearthed the facts that Russian channel 1 is centered on 49.75 and that a station is in Novosibirsk which is n.n.w. of Perth. It certainly sounds somewhat life t.v., but . . . If it is t.v., where is the sound channel? If it is not t.v., why the wide bandwidth of several megs.?

A last independent effort has been made from VK6 to keep 50 Mc. This State was the first to protest against the proposed change back in 1955 when a group of v.h.f. enthusiasts got together to register a protest. The final shots were accompanied by tape recording of sigs heard on 6 during the I.G.Y. It certainly made interesting listening.

The consistency of JA openings and their lack of correlation to 28 Mc. openings or conformity to m.u.f. predictions makes one think. In Perth frequently HLKA on 49.6 is loud and clear. HYKA on 48.3 Mc. is inaudible, yet JAs are heard on 28 Mc. and 50 Mc.—6BE.

**Northern Territory:** There was nothing of DX interest happened in Darwin during Aug. Still having trouble as to where my operating will take place from. At present I have a temporary location about 10 miles from the main camp area but this is not very favourable at all. The rig is on the air although the converter needs a little work on it. The antenna at present is a folded dipole about 20 ft. high amongst many other sky wires of assorted shapes and sizes. Hear from 21 Mc. that 9M2DQ is on the lookout for any 50 Mc. signals but seems to have his doubts of receiving any VK3, 2 signals or even VK4s. Ian 3ALZ should be more conversent on that subject as he does contact Jim quite often. One evening did hear a JA on 28 Mc. so fired up on 50 Mc. for no results. Some of my gear has still not arrived from Townsville. Am pushing things alone and should get some results in the near future. A pity we cannot keep 6 mx as the other countries have.—5ZDW.

### 144 Mc. BAND

This band is growing up. After being a social band for many a long day, a Cinderella from the DX point of view, organisation is coming into the long haul picture, a determined attempt is being made to swap signals between VK3 and VK6. Many desolutry attempts have been made to pases reports over 200 to 300 mile paths with indifferent success. Maybe then again there have been the consistent attempts of which the more important are probably the VK6WG/6BO morning skeds over a 12 month or so period with quite good results over the 250 mile path between Albany and Perth, and the successful driving of sigs over the mountains on the 65 mile path between 4LK at Charters Towers and Townsville. Yes, the 650 mile passage VK7/5 and the 1,500 mile path VK5/6 have both been opened, but these were the fruits awarded canny experienced operators who seized the opportunity when their experience, observation and deduction indicated the possibility of openings. Yes, VK2 is in the picture with the path to Newcastle, not easy terrain by any means, and the 2AH/2ZL hop is to their credit. The latter I do not know enough about, it may have been the result of consistent attempts or the reward of experience.

Now Gordon 3ZEJ, of Ballarat is willing to take on all comers regarding skeds, particularly in VK2 and 4. The opportunity for VK5 and VK7 to participate is there during the existing VK3/VK6 sked period.

**Here are sked times, indicating open and close of sked, listed E.A.S.T.: VK3 commences with a 5-minute transmitting period followed by a 5-minute listening period. Sundays 1200-1210, 2130-2150, 2230-2250. Tuesdays 2230-2250. Monday, Wednesday, Thursday, Friday and Saturday, 2130-2140, 2230-2250. Skeds to continue until contact is made. 3ZEJ freq. is 145.1 Mc.**

Gear: 90 watts to four 10-element Yagis 10 feet apart horizontally and vertically, 63 ft. high. Rx uses 6BC4s in cascode. While c.w. would be the ideal method of tx, 3ZEJ is planning to go on s.s.b. to enable him to get more effective intelligence over these DX distances. These skeds commenced Aug. 28. Known VK6 stations participating are 6WG 144.12, 6ZAV 144.135, 6BO 144.22, 6BE 144.36 Mc. Wally 6WG (Albany) is using 72 watts final input to 32 elements phased 53 feet up, converter 6J6s p.p.

**New South Wales:** The monthly meeting saw 37 members present to hear a lecture by Allan Johnson of the P.M.G. Dept. on Transistor Power Supplies. Allan gave a good lot of practical advice and data for using these units and how to construct same. The figures presented were so attractive in terms of efficiency versus battery drain that I am certain many genemotor enthusiasts gave serious thought to a change-over.

A new method of scoring in fox hunts was discussed and it was decided that as well as the existing 3, 2, and 1 points for 1st, 2nd and 3rd, there will be an additional 2 points allotted to the car doing the hunt in the shortest distance. The fox will find out the shortest route to his hiding place and calculate how long it should take to cover it at 30 m.p.h. Any hound arriving before that time will be penalised, so watch your speedometers chaps! This rule should encourage skill and not speed.

On Monday, 10/8/59, as part of the handicrafts section at Willoughby Town Hall, equipment was set up to display Ham Radio to the public. It was arranged for the Mayor of Willoughby to pass a message of greeting to the Mayor of Katoomba over a 2 mx link. Terrain was against it, however, and the message was relayed via 2WI to 2AUX, the club station of the Blue Mountains Section. All went over well and the amount of interest shown by the crowd, many of whom spoke over the air on both nights, was most pleasing.. Congratulations to 2PM, 2OA and the others who assisted.

Mobile Fox Hunt, 19th Aug.—The fox was Bob 2OA, but being on the sick list and unable to drive, was assisted by John 2ZAV. They had the frustrating experience of getting a flat tyre 10 minutes after the start and with one eye on the road worked frantically to change it. They got under way in time, however, much to the sorrow of the hounds. The night was won by 2PM, 2nd 2ZBG and 3rd 2AWZ.

Treasurer Hunt, 2nd Aug.—Horrie 2HL was the pirate hiding some very cryptic clues which helped the confusion greatly. 2ZCF with 2ZAL cleaned up the day with 11 pts., with 2OA 10 pts., 2ANF and 2AWZ tying with 2ASZ 9 pts. Thanks a lot, Horrie.

Results of midwinter contest in July: 1st, 2ZCF 124 pts., 2nd 2RX 99 pts., 3rd 2ZFC 96 pts.

Surpise Scramble, 30th Aug.: 1st 2ZFC and 2AWZ tied with 15 pts., 2PM 2nd 14 pts., 3rd 2ZCF, 2ZBX, 2WI tied with 12 pts. Hope we have many more.

Several stations are planning trips for the long week-end in October. Phil 2ZBX has suggested Scone, Dick 2ZCF Mt. Gibraltar at Bowral, Gordon 2ZGW possibly going to Canberra, John 2ZAV heading towards Newcastle. Don't forget the Blue Mountains Field Day on October 25 at Lawson.—2ASZ.

**Victoria, Western:** Reg 3ZFO (Horsham) is keen on 144 Mc. and is putting up two 18 ft. Yagis and making rx and tx changes with that in mind. Skeds were being run between Ballarat and Mac 3ZCW at Ouyen until the recent storm. Mac lost his beams and we have not heard from him since. Those skeds resulted in about 150 contacts over the 200 mile path and they proved to be 100 per cent. reliable. George 3ZEA in Rainbow has been worked several times during the last couple of weeks from this QTH. Geo. comes on around 2100 hours but he has a grain silo in front of his beam when it is aimed at Melbourne; this makes things a trifle difficult. 3ZEP, 3NN (Yannac) and 3ZFD (Horsham) tried to get to 5ZCD at Bordertown but no luck. They are going to try again.—3ZEJ.

**South Australia:** George 5ZGA has built himself a 144 Mc. converter using a local osc. and reports good results. George's next effort is a 144 Mc. tx. I'm not sure but I think George has an 829B final, keep at it fellow, a few more sigs up there and we'll all be back on the good old band.

Those reported for looking at the one-eyed monster too much are: Col 5RO, who incidentally finished up buying one, Keith 5MT, Bill 5ZAX, Ken 5KC and Clem 5GL. Come on fellows, leave the dead cowboys and Indians to the kids and get ready for the big DX season just around the corner.

Gordon 5XU, through 5WI, is organising W.I.C.E.N. amongst the v.h.f. boys and has a roll call on 50 Mc. at the same time as the roll call on 80 mx on Sunday nights. Any interested members are asked to contact Gordon who is anxious to use 288, 144, 50 Mc.—particularly mobile outfits.—5ZAW.

**Western Australia:** Two metre activity in VK6 should have a shot in the arm from the current checks VK6/VK3. See the opening notes for sked times and remember the two-hour time difference. What about it VK5, will you be in it?

T.v. has arrived in the West, but, apart from some puzzled viewers on Channel 1, who wonder what those black and white bars mean, no impact has been felt among Amateurs yet.—6BE.

### GENERAL

How about it scribes and others interested, news of your regular metropolitan/country and cross country contacts with distances covered? Would the VK5/6 chaps concerned submit details of their 144 Mc. contacts to F.E. through their Divisional Council so that F.E. may confirm the distances covered. The record list as last published was a farce without that in pride of place. And if 50 Mc. types read as far as this, how about sending in a list of countries worked, just the number of countries-continents would do.—3OF.

**Victoria:** T.V.I. Committee.—The committee had their first meeting on Sept. 1. They consist of 3ZFO, 3ZFQ and 3ZGP representing the V.h.f. Group and 3AEL who is acting for the two members to be appointed by Divisional Council. The delay here is due to Council being actively engaged with the frequency allocation business. Much was discussed at the meeting and they feel that the committee can now tackle any problems that may arise.

Those in trouble should contact any of the above on the air or telephone John Anderson, 3ZFO, at WY 1726 after business hours, or write C/o. W.I.A. Interference Committee, P.O. Box 36, East Melbourne, C.2, Vic., who will advise on the requirements for investigation of your problems. It is hoped to have further details announced via 3WI from time to time. When reporting trouble via telephone, please have available all relevant details of the complaint, etc., and where the Amateur concerned may be contacted.

The committee strongly recommends the following procedure. When a complaint is received regarding interference, that the Amateur concerned will refrain from transmitting for a period, to completely ascertain whether the interfrence is actually being caused by the Amateur, in particular t.v.i. Your personal standing with the complainant should be taken into account. Regulations by the Department insist that you should not antagonise the complainant, either by your attitude to the report or by continued interference. If there is good standing between yourself and the complainant investigate the report immediately. If it is clear that you are causing interference, it is better to remain off the air, except to conduct tests to ascertain any adjustments you have made might have cured the trouble.

Most troubles, particularly with t.v.i., resolve themselves into one of three results: Overload of the set, mostly from 50 Mc.; cross-hatch on all channels or individual channel, or audio break through. Ascertain which is causing the trouble and work on your tx from there. Not forgetting that rx's can cause trouble as well. Reference should be made to the A.R.R.L. Handbook sections on interference and/or the Rand Handbook on T.v.i. These are invaluable guides to tracking down and curing troubles.

Another fallacy is accepting your own t.v. as a guide. Cross hatch or front-end overload can occur on adjacent sets and not show on your own. A personal check will show the trouble. On no account offer to touch the set in trouble yourself. Enquire what organisation is engaged to service the rx and arrange for a representative to call and attach the necessary traps, etc., that may require fitting. First of all explain the position and should the serviceman not be familiar with the trouble, demonstrate the effects to him so that he will understand.

It is also wise, when difficulty of any nature is experienced, to consult your local Radio Inspector and report the trouble to him.

It is hoped to have a list available of the local Inspectors for your information.

For any further details at this stage, please contact any members of the committee who will be only to pleased to give you all the help he can.—3ZGP.

# S W L

**Maurice Cox, WIA-L3055**
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.23, Victoria.

Hi fellas! Here is your scribe with this month's news for the s.w.l'ers of "down under". Firstly, I want to write of the R.D. Contest. Five of us were present at Bert's (3ZGD) QTH. We spent 30 hours there—working, eating and a couple of hours sleep was attained in the wee small hours.

I would like, on behalf of the VK3 S.w.l. Group, to convey my wholehearted thanks to Bert, his XYL Phill and two harmonics—Paul and Greg.—for the help and food that they gave us; due to them, we had a most wonderful time and we enjoyed the get-together immensely. Once again, thanks very much Bert.

I'll let you know now chaps, I entered a contest for the first time and they have got me in! I sincerely hope all you s.w.l's. did well and that we hear of you entering more of them.

At the August meeting of the VK3 Division S.w.l. Group the following officers were elected as office-bearers for the next 12 months: Mike Ide, President; Ian Woodman and Bert Stebbings (3ZGD), Vice-Presidents; Maurie Cox, Secretary; and Ian Thomas, Assistant Secretary. I might add here that we have some big plans for the forthcoming year.

### CORRESPONDENCE

Now on to the letters for this month. Firstly, from Mike Codlow, of Carnegie. "This letter is to let you know that I enjoy reading your s.w.l. notes in 'Amateur Radio'. I have been interested in s.w. listening for about three years. I am now 18 years of age. Unfortunately, I only manage to spend a few hours a month listening to the s.w. bands. Work keeps me busy during the day, and often until late at night. I am also studying for my Leaving Certificate. Most of my listening is done in the early hours of the morning.

"My receiver is a 'Standard', 9 transistor radio, size 8 x 5 x 2 inches. Its frequency range is 3.9 to 12 Mc. My antenna is a half wave, single feeder, resonant for 11.8 Mc., and beamed north west-south east.

"I wish you all the best in the writing of the s.w.l. section of 'Amateur Radio', and I shall send you further information of stations being heard on the s.w. b.c. bands during the months to come."

Thanks for your letter Mike, you would have received mine by now. Hope to hear from you soon.

Next one is from Don Grantley, BERS1002. "Many thanks for your letter OM, pleased to hear from you and to officially make your acquaintance. It's a pleasure to be able to assist you at all times, and if there is anything special you want, speak, and I shall do it for you. I must say a few words in praise of Tim Mills. He is doing a swell job as Secretary of our Group and has everyone on the ball; better still, as Assist. Secretary of the VK2 Division, he is in constant touch with the Division itself.

"OK on your 24 hour effort in the R.D. Contest. I believe it is really necessary and would have done the same this year had I been able to. Last year I was very careless with it. I went to roost at 11 p.m. on the Saturday night, by which time I had about 550 points, and got up again about 4 a.m., listened for a while and then did my milking; putting in until about 4 p.m. on Sunday. I was careless, took the whole thing too cheaply, did not bother with c.w., and tossed over 300 points into the wastepaper basket, these being entries where I was uncertain of the serial number. I wish you well in the event. I hope that the number of entries is well up.

"Had a letter from Eric the other day, and he told me he would be working during the R.D. week-end. Eric and myself will probably tackle the B.E.R.U. this year. We are keeping VK to the fore in the G-land clubs—R.S.G.B. and I.S.W.L. Are you in the I.S.W.L.? If not, I will send you the s.w.b.c. notes out of their mag. each month.

"Heard anything of Rod de Balfour at all Maurie? Last I heard from him was very early this year and he was about to leave Tasmania to attend the Sydney University; don't know what happened." Sorry Don, I have not heard of him at all. Will try and write him a note soon.

The following items were extracted from Don Grantley's letter.

### G3MUM

How many of us have heard Peter G3MUM working on phone? He is a fairly new operator, having been on for only 12 months. Sounds like any other G-lander over the air, but in reality is completely crippled, other than for the toes of one foot, with which he operates the controls of G3MUM.

### VK-ZL CONTEST

This world-wide DX Contest will soon be on the list for us. Let us try and get organised and make sure that the top scorer in the receiving section is a VK s.w.l. Don Grantley, L2022, has entered two of these contests so far, and in both cases has done his utmost to hold top score for VK, succeeding in the 1958, after being third in 1957. On present indications, Don will be putting in almost the full period in the c.w. section, and only a short while on the phone.

Now this contest is a very fast-scoring event and in a short while a very creditable score can be rattled up, but more than this, there is the very distinct possibility of adding several new countries to your lists, as the DX which comes through, particularly on 10 and 15 metres, is rather amazing to say the least. The c.w. operating in general is of the highest order, particularly from the American call areas, and is a good opportunity to have some intense code practice as well as collecting a few new ones and building up your country score.

The N.S.W. Group will no doubt be on the ball and it is to be hoped that the other Divisions organise a listening marathon to keep Australian s.w.l's. to the fore in the event.

### NOVICE STATIONS IN THE U.S.A.

We are all aware that there is a grade of ticket in the U.S. which permits restricted operation to Novices. These chaps operate c.w. crystal cntrolled on their segments of 40 and 15 metres, on a restricted power. Most of these are youngsters, some only 9 or 10 years of age, but all very keen, and are the Amateurs of the future.

Most of them are unaware that their signals, particularly on 7 Mc., are getting out of the States, much less into Australia. They all have their cards and most of them QSL very enthusiastically and are most eager to get reports on their transmissions.

An example of their enthusiasm is shown by a package received by L2022 on 20th July. It appears that Don's list of novices heard over a period appeared in July "CQ", and on this day a large envelope, bearing postage to the value of 60 cents, airmail, and containing a wad of I.R.C's. arrived. Apart from I.R.C's. there was a brief note stating: "Sure wud like ur card OM" and the station's call sign.

So how about it chaps, give these kids a bit of your time, send them a card via your Bureau; you will get one back most likely, and who knows—could be a new State. The standard of c.w. is poor in the circumstances and anybody could copy it. Only catch is the heavy interference on 40 metres.

73 de your scribe.

# THE WARBURTON FRANKI PAGE

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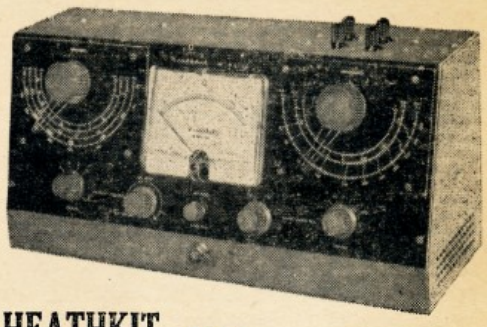

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Ideal for use in prospecting or in medical industrial laboratories. Meter ranges are 0-100, 600, 60,000 counts-per-minute, and 0.02, 0.1, 1 and 10 milliroentgrens-per-hour. Complete, includes batteries and safe radiation sample for calibration. Coiled cord between probe and instrument—no tangling. Size: 9½ in. high, 6½ in. wide, 5 in. deep.

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The S-3 allows oscilloscope observation of two signals simultaneously, such as input and output of amplifiers. Comparing waveforms will help you localise faults quickly. Separate gain controls are provided for each channel, with sync. output to lock oscilloscope sweep or time base to signal frequency. A position control is provided to separate or superimpose the two waveforms. Frequency response is plus or minus 1 db from 0 to 100 kc. Four switching rates of approx. 150, 500, 1,500 and 5,000 cycles.

WRITE FOR COMPLETE INFORMATION

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- **VIC.: 359 LONSDALE STREET, MELBOURNE—MU 8351**
- **N.S.W.: 307 KENT ST., SYD.—BX 1111. Also Newcastle and Wollongong.**

# NOTES

## FEDERAL

### FEDERAL SECRETARY RESIGNS

It was with regret that the Federal Executive accepted the resignation of Federal Secretary, Douglas Bowie, VK3DU, at its meeting held on 26th August.

Doug joined the Executive in June 1954 and carried out the duties of Federal Secretary for five years in a most commendable manner. During a trip abroad last year he spent much of his tour time in liaising with overseas Amateur Societies for the general benefit of the Wireless Institute of Australia.

This year Doug, unfortunately, had to undergo a serious operation and it is for reasons of regaining his health that he has reluctantly resigned the post. Federal Council and members will join in thanking Doug for his painstaking attention to the office of Federal Secretary and wishing him a rapid recovery to normal health.

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## FEDERAL QSL BUREAU

The Israel Amateur Radio Club has announced the winners of their 1958 Jubilee Marathon. The world winner was HB9EU with SM5LL as runner-up. Amongst the country winners are Australia, VK3CX; New Zealand, ZL1APM.

OH2XK/O and OH2YV/O will be on the air from the Aaland Islands (in Baltic Sea) starting on September 17 and continuing until 22nd, mainly on c.w. They propose using 3.5, 7 and 14 Mc. bands but not simultaneously.

Those needing Burma should keep an ear open for XZ2GM, who is regularly active using 35 watts to a ground plane. The operator is M. G. Aye. Maung, 85 Tamwe Road, Rangoon, Burma. He QSLs all contacts.

Details of the Cabo Branco Award, which is issued by the Association of Radio Amateurs of Paraiba, Brazil, may be had from this Bureau.

The amended Budget proposals (Australian) recently released show that QSL Bureau costs will rise by 50 per cent. The original proposal would have increased costs by 175 per cent.

—Ray Jones, VK3RJ, Manager.

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## FED. CONTEST COMMITTEE

### NATIONAL FIELD DAY

One of the duties of the Federal Contest Committee is to endeavour to conduct Contests such that "a good time is had by all". It was with this object in view that the proposed rules for N.F.D., as published in last month's "A.R.," were formulated. Most of you participated in the R.D. Contest and enjoyed it, regardless of whether you gained a high score or not. Why then cannot the N.F.D. be also an annual contest that is looked forward to by all? It should have a high participation figure as similar contests conducted in the U.K. and the U.S.A. are very popular.

What the F.C.C. have to decide is what makes Contests "tick"? If you do not write and let us know your opinion, good or bad, of the proposed N.F.D. rules, we are left in the dark and have to use "hit and miss" methods.

We know that writing a letter is a task avoided by most of us. If this is so in your case, why not discuss the matter over the air? Perhaps you are in a net on 40 or 80 metres, or better still, pass your ideas to a VK7 station. You may be sure they will reach the F.C.C. via the grape vine.

**Most important, you must start to get your gear together for the National Field Day NOW!**

Address your letters to the Federal Contest Committee, W.I.A., Box 371B, Hobart, Tasmania.

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## CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

★

**VK-ZL DX CONTEST, 1959:**

**Dates:** Phone—1000 GMT, Saturday, 3rd Oct.—1000 GMT, 4th Oct.
C.W.—10th Oct.—11th Oct., 1959.

**Rules:** Overseas, as for 1957. VK-ZL, Bonus value altered (see August "A.R.").

**"CQ" WORLD-WIDE:**

**Dates:** Phone—Last week-end Oct. '59.
CW—Last week-end Nov. '59.

**R.S.G.B. 21/28 Mc. PHONE CONTEST:**

**Dates:** 0700 hrs. Sat., Nov. 21, to 1900 hrs. Sun., Nov. 22, 1959.

**Rules:** See "A.R." October, 1959.

## NEW SOUTH WALES

The August meeting of the N.S.W. Division was held as usual at Science House on August 28, approximately 40 members being present. We were very pleased to welcome to our meeting two Interstate members, 5OM and 5ZAW, who met many of our local members. We would like any Interstate visitors to join us at our meetings held on the fourth Friday of the month. Lectures are arranged for each meeting and we feel sure will appeal to all.

In the absence of the Secretary, who was taking a well earned rest, the minutes were read by the Assist. Secretary, Tim 2ZTM, and following the usual formalities, new members totalling 36 were admitted to membership, these comprised 13 Full Members and 25 Associates.

The President, Dave 2EO, introduced the lecturer Frank Hine (2QL) who gave a most interesting discourse on Ionspheric Prediction Charts, a subject on which I feel very few of us knew very little. Frank pursued his subject in a most workmanlike manner and using the Australian Charts as an example, showed how predictions may be read giving the most suitable time and frequency for a contact between two predetermined points. The amount of detail necessary to such a subject was given and, as a result, time ran out before Frank had had the opportunity to explain the world-wide prediction charts, but these will be the subject of a further lecture by Frank in the very near future. A number of questions were asked of the lecturer, and the vote of thanks to Frank was proposed by Morrie 2VV and passed in the usual manner.

A discussion then took place on the Minutes of the Federal Convention, these were explained in detail by the Federal Councillor, Bob 2ARG. These items are to be ratified at the next meeting which was to have been held on September 25.

The meeting was then closed by the President at 10.20 p.m. and members and visitors adjourned for coffee and the usual ragchew which continued unabated until lights out.

### BLUE MOUNTAINS SECTION FIELD DAY

The Field Day for the Blue Mountains Section will be held at Lawson Swimming Pool on 25th October, registration commencing at 10 a.m. at a cost of 10/- for the whole family. A full programme of scrambles and competitions has been arranged for young and old, with some excellent prizes to be given to successful entrants. Full details will appear in your bulletin this month, and we would urge you to pack the family off to Lawson on that day as an excellent time will be spent by all. The scrambles will be conducted on 2, 6 and 40 metres, so include the gear for mobile and portable operation.

### GOSFORD FIELD DAY

The Annual Field Day arranged so successfully by the Gosford boys will be held this year on November 22, the location being the Gosford Sailing Club as previously. This Field Day is also a must for all as an excellent programme is arranged to suit all tastes, with good prizes to be won. No details are yet to hand, but will be included in full in the October Bulletin. So fellows, give the family another day out in the glorious surroundings of Brisbane Water, and give the organisers encouragement in their efforts.

Members of the Central Coast Zone are reminded that a hook-up is held each Monday at 8.30 p.m. on 3635 Kc. It is requested that all zone members make an endeavour to appear on this net.

### SLOW MORSE TRANSMISSIONS

Permission has been received from the Postmaster General's Department to conduct slow morse transmissions on 3535 Kc. for the benefit of those who wish to attain their Certificate of Proficiency. These transmissions will fill a long felt need, and arrangements are being made to recruit a body of operators to conduct these sessions, if possible on a nightly basis, so anyone who feels they can give up a half hour once a week would be welcome to submit their names for the roster of operators. Full details of the schedule will be given in the Bulletins and the weekly broadcast over VK2WI.

### ALBURY RADIO CLUB

The Albury Radio Club has been formed but recently, however in that short period much has been accomplished. The seven licensed Amateurs from Albury and a number of enthusiastic lads in the district have banded togethed to form the club, which under the driving force of the President, Noel 2OJ, and his willing band of workers have progressed to the stage where the club is about to apply for its call sign.

The club has been fortunate in obtaining a room at the Albury High School, the staff of which have given full support to the venture. A start has been made on the W.I.A. A.O.C.P. course and a number of associates are making good progress under the guidance of Don 2RS and other instructors.

As further instruction, the club is building its own gear, keeping as far from disposals gear as possible, a frequency meter is under construction, and work is commencing on the erection of the antenna. New members are being sought, so we suggest any local enthusiasts should attend the next meeting and join the band.

### HUNTER BRANCH

Your Branch President, Lionel 2CS, was in fine form during the August meeting and almost obtained some converts to s.s.b. Some animated cross-talk was flying around and Bill 2XT still remains to be convinced about something or other. Lionel was quite illuminating and even the teeny-weeny bulb showed signs of brightness on speech. Just as well Zulu Lulu wasn't there or the bulb would have burst its inside. Those present were 2CS, 2SF, 2ZMO, 2RJ, 2ZDL, 2AKX, 2XT, 2ZJR, 2AEE, 2AQR and Associates Sutherland, Gray, Bailey, Richardson, Davies, Sumner and Fyfe. 2AQR was welcomed as a visitor but is still wondering why? Names are rolling in for the Annual

## SILENT KEY

It is with deep regret that we record the passing of:—

VK2SS—A. Skenesmith.
VK2AGU—Harry Hatton.
VK7AJ—A. W. Johnson.

**WIRELESS INSTITUTE OF AUS.**
**HUNTER BRANCH, N.S.W. DIV.**

★

**EIGHTH ANNUAL**

# CONVENTION

**SATURDAY and SUNDAY,**

**3rd and 4th OCTOBER, 1959**

★

**PROGRAMME:**

**Saturday, 7.30 p.m., October 3—**

Dinner at University of N.S.W., Newcastle. Guest Speaker: Hon. Alan Fairhall, M.H.R., VK2KB.

**Sunday, Oct. 4, Blackalls Park—**

9.30-10.30 a.m.: 144 Mc. Hidden Tx Hunt.
11 a.m.: W.I.A. Broadcast.
11.30 a.m.: Disposals Sale.
Noon: Lunch.
1.15-2.15 p.m.: 7 Mc. Scramble (no a.c. permitted).
3-4 p.m.: 144 Mc. Hidden Tx Hunt.
4.30 p.m.: Prizegiving, Farewells, etc.
Usual races and competitions for XYLs and Harmonics.
Boiling water will be available free.

N.S.W. CENTRAL COAST SECT.

★

GOSFORD
FIELD DAY

will be held on

SUNDAY, NOVEMBER 22

at the

GOSFORD SAILING CLUB

★

40 AND 2 METRE HUNTS
XYL BOAT TRIP, ETC.

Reg Brook, VK2AI, Secretary

Low Drift
Crystals

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AMATEUR
BANDS

ACCURACY 0.02% OF
STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted .... .... £2 10 0

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12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

THESE PRICES DO NOT INCLUDE SALES TAX.

Spot Frequency Crystals Prices on Application.

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MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

Dinner and Blackall's Field Day, both of which will probably be over before you read this; hope to have a full report in the November issue, but it will be close as my tripe-writer is of the QRS variety.

Recently had the opportunity to peruse a list of Amateurs of the Hunter Valley and a breakdown showed that of the 86 full licensees, only 40 were members of the Institute; the Z calls were 13 with six non-members; there were also 23 associates. On these figures it looks like some local propaganda is called for. Even some of the blokes who retain their call sign for sentimental purposes only might be enticed to become active—look what happened to Bill 2ZL. Talking of Bill, I doubt if there is anything in the rumour that he is a member of the Horological Guild, though he did mend his grandmother's grandfather clock. At present Bill is losing a lot of sleep trying to devise a way to instal a motor to save him having to wind him—her—it up. Address all ideas to Phenol Bay.

Lionel 2CS blamed a crook fuel pump for the reason why he blotted his copy book by being late for his 2AWX broadcast the other night. If truth would out, it was probably some other pump trouble as no doubt he was celebrating a certain promotion that came his way. Going from the sublime to the ridiculous, Stuart 2ZDF thought he would take it easy returning home after a few months in VIM, but nearing Goulburn he saw the stork flying past his car, The bird won but Stuart was the ultimate winner with a bonny baby girl; congrats to you both. The powers that be apparently heard of the event and proomoted Stuart to production super; very appropriate.

Lionel is at present on holidays in the premier State—apparently needing the stronger Queensland sunshine to strengthen his eyes for future viewing of the square box with three channels in it. Extremely pleased to hear the voice of Ron 2ASJ on the 2AWX call-back; keep it up Ron and all the best. Les 2RJ, with a 122 for company, was on holidays at Pt. Stevens, but the fish didn't bite. Bill 2XT still working Yanks galore, believe he expects to meet some in person later on this year. Well, chaps, next meeting is on October 9, usual place, so come along and compare your doings of the week before at Blackalls.

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## VICTORIA

### STATE CONVENTION

The Victorian Division W.I.A. State Convention will be held at Stawell this year during the week-end of 3rd and 4th October. The Convention Dinner will be at the Commercial Hotel, Stawell, commencing at 6.30 p.m. on Saturday, 3rd October. On Sunday, 4th October, during the morning an 80 mx transmitter hunt and a 2 mx fox hunt will be held for those interested, or a visit to the wild flowers for those who desire to see the bush life. A Picnic lunch (bring your own) will be held at Halls Gap and during the lunch period some disposals equipment will be sold. In the afternoon there will be a scramble and other entertainments.

### SOUTH WESTERN ZONE

The closing date for accommodation for the Convention being held at Warrnambool on the week-end of 31st October and 1st November, is the 1st October.

The dinner on Saturday evening will be held at 6.30 p.m. at Eckers Hotel. Bookings will be taken up until 23rd October if accompanied by a deposit.

3PS and 3ARJ will be on the air from 2 p.m. on the Saturday on the 3 and 7 Mc. bands to work all the mobiles. Upon arrival at Warrnambool, visitors are requested to report at Bill Wines' QTH at 48 Crawley Street, Warrnambool.

All bookings must be sent to the organiser at the QTH given above.

### NORTH EASTERN ZONE

Seems like I spoke too soon last month about antennae staying put. Latest news from the salt mines of Benalla is that antennae fell right and left at the QTHs of 3KR and 3DW. At 3KA's, nothing was left standing, not even the 50 ft. sticks holding up the 80 mx antenna. However, Ken hopes to re-build with a tri-band quad this time and with this in mind went visiting 3AGG and yours truly to see how quads are kept in the air during high winds. At the QTH of 3AGG he was suitably impressed with the construction, but at this QTH, I am not sure whether Ken was impressed or amazed that my quad weathered the gales. Ken now has his W.A.S.

Keith 3DW also suffered damage to his quad but prompt repairs put him in business again. Hugh 3AHF just returned from the gold coast with a new auto, now that just doesn't appear right Hugh, usually one goes to the gold coast with a new auto and usually has to pawn it to stay long enough to get the tan you have. Nothing from Jack 3PF or Bill 3JP; what about a line fellers?

3AUL, our esteemed Secretary, joins the ranks of those with fallen antennae, but due to the deluge no longer has to bucket the watter to the house, so you see "It is an ill wind that does not do some good." Johnny 3ACK playing around with tape decks so that he can have sound with his 8 mm. movies. 3AGG loves to leave his v.f.o. running all the time but I think Bruce will discontinue this practice after a JA called him on his frequency on 6 metres and Bruce did not hear him. Would have been his first JA on 6 mx too. Along with Peter 3APF and Sid 3CI, Bruce is contemplating operation on 288 Mc.

George 3GD has had a visit from the R.I. over t.v.i., however after checking George's rig thoroughly for harmonic radiation, George has a clean bill of health, so the moral is fellers, proof your rig to the best of your ability and if the radiation from your harmonics is below a certain point you are in the clear. How to get it below that certain point is your business.

The Annual Zone Convention will be held at the Auditorium at Shepparton's 3SR (by courtesy of the manager, Murray 3HZ) on Sunday, November 8. Keep this day free, roll up and let's hear your winges; a good time can be had by all. Election of officers including that of zone correspondent. Attend so that you are able to defend yourself in person because if you don't you never know what you may end up being for the next 12 months.

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## QUEENSLAND

### TOWNSVILLE

The boys certainly rolled up in full force at the last meeting on 27th August although a few of the old timers were still conspicuous by their absence. It was pleasing to note a few visitors, namely Vern 4LK from Charters Towers and Basil 4ZW from Cairns, also associate Aften from Atherton. Main topics of discussion being the formation of classes for A.O.C.P., which will get under way next week at the residence of 4PF, Frank being one of the lecturers and the members are lucky to have access to his gear. It is to be hoped all

W.I.A. N.S.W. DIVISION
SOUTH WESTERN ZONE

Seventh Annual

CONVENTION

at NARRANDERA

3rd, 4th, 5th OCTOBER, 1959

Location: Postal Institute Hall
Bolton Street, Narrandera

A good programme of events is being drawn up including a Scramble on 2 and 5-6 metres. Good prizes for all events. Also good prizes will be awarded to the home stations for the most contacts with those at the Convention.

BOOK ACCOMMODATION EARLY
with F. Pearson, VK2ACQ,
42 Frederick St., Narrandera, N.S.W.

UNIFORMS
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Bowls Frocks, Tennis Frocks, for the retail trade.

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who come along will stay the course and get their tickets. Claude 4UX is to start classes at Ayr and has nine members to start with next month. This augurs well for our Centenary Year in Queensland. If this good work keeps up next year the north will come into its own and may be a new far northern branch of the W.I.A. can be formed.

Another important matter was raised by 4RW and 4ZBE, namely the placing of a station in the Trades and Industries Fair which was to have been held from 17th to 19th Sept. Although time was short, it was decided that T.A.R.C. apply for a call sign to use on that occasion. A number of members loaned their rigs, etc., for the occasion, which is hoped will become a yearly event.

The Chairman, Allan 4PS, advised the meeting he had circularised all Amateurs from Sarina in the south to Arthur 4FE in Normanton in the north to Owen 4OV in Mt. Isa in the west, giving them an invitation to be present at a Hamfest of the T.A.R.C. to be held on 3rd and 4th October when various matters affecting the Amateurs will be discussed. He also drew up an imposing list of various places to visit and including "do's" for the wives and children who may accompany the OM. Accommodation will be found with the local boys. Hope a good roll up ensues to make this first occasion the success which it deserves. This will be the place to air all your grievances and see what a collective effort will bring forth.

Frank 4ZM bewails the fact that only a few call in on the W.I.A. net on 20 mx each Sunday and hopes to hear more and will even pass on your grouches although not on Council himself. If you don't call in and grouch, it is assumed you are in accord with the way the Division is run. Remember a branch which has no opposition voices is a decadent one. Arguments keep the officials on their toes.

Rex 4LR has returned to Brisbane after the mid-winter recess, sports a single seater coupe and plans to go mobile. Mike 4OM visited my shack just as a break through to KH6 on 50 Mc. opened on 18th August and was suitably impressed, I hope. Owen 4OV back from his trip to Darwin, worked mobile each way and is now fully converted to this type of Ham Radio for future holidays. Believe it or not, but Arthur 4FE is going in for gardening and beautifying the department edifices in Normanton. Does he miss the swaying palms and dusky maidens of Thursday Island? The sore throat that Allan 4PS developed in the R.D. Contest turned into a bout of sickness and laid him up for the week. Even so, he enjoyed the Contest.

Basil 4ZM and Aften on "Walkabout" visited Sarina, Mackay, Home Hill, Ayr, Charters Towers and local boys in their travels. Can vouch with Harry 4ZP that they are good eaters but better at washing the dishes (XYL Zoe to note!). John 4DD again on the sick list; was it the germ of s.s.b. that did it? Charlie 4BQ almost finished his tower and hopes to erect it very soon. Ted 4EJ now mike shy and pounds the brass; had heard of the voice tests for the t.v. shows and is a non-starter. Allan 4BE waiting for 10 mx to open, also same goes for Len 4GD. Eric 4EL is waiting patiently for the bright lights. Bob 4CR is off the air; electric light bill getting too high during winter months. Doug 4ZBM and Bill 4ZBE are there for each opening to Hawaii on 50 Mc. Can hear the JAs calling the VK6 boys on 50 Mc. Congrats to Mike 4OM and XYL upon the arrival of a brand new harmonic.

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## SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for August took the form of a display of members' gear, and for the first time since this display was first held each year, I regret to say that the response was poor. Why it was poor, nobody could hazard a guess. It has always been a popular night, and up until this month the number of exhibits usually took two or three tables to display. I could but notice that those who did not bother to display any gear seemed the most surprised at its lack; and can only assume that everybody left it to everybody else to do the right thing. Only one award was made for the night, due again to not enough entries, and this went to Barry 5ZBZ for an excellently constructed 6 mx mobile transmitter. Congrats. and the award was well merited.

Nothing of great importance csame up in general business, although there was a ballot for the disposals equipment. There was a suggestion for a W.I.C.E.N. Contest incorporating message handling. The Picnic came up for discussion and it was decided to try and hold one in the autumn next year.

3ZX, who is now a member of this Division, passed on greetings from the VK3 Division to the VK5 Division, and as a grand finale Leith 5LG commented on a recent letter published in the magazine with reference to using the American phone band of 14 Mc. for the R.D. Contest, so with the 83 members present all talking at once, and with Leith more than holding his own, both in volume and clarity, a good time was had by all.

The meeting closed at the witching hour of 10.25 p.m., although I have it on good authority that at 11.25 p.m. Leith and the fire hydrant just outside the meeting room were still arguing the point as to c.w. versus phone.

Ken 5KC heard on 40 discussing his recent visit to the Snowy Mountains and regions thereto. His graphical descriptions of what the VK2 boys call highways made interesting listening, and should have flattered the ego of the wise men from the East no end. Hughie 5BC was also heard on 40 discussing a projected visit to the same area, probably in Sept. Apparently he expects to spend a portion of his leave in Adelaide and then for over the border. Hope he makes the general meeting, I am tired of telling various visitors and locals that the famous, or is it infamous, v.h.f. specialist 5BC seldom makes the meeting.

Vec 5BZ bobbed up on 40 one Sunday morning recently, calling CQ. He did not stay long, much to the disgust of the VK3 who called him loud and long. Nice to hear you on Cec., rumour had it that you had given it away. Gordon 5HM heard in contact with 4LB on 40, late on Saturday night, swapping R.D. numbers. The speed with which these two stalwarts dashed off their numbers had to be heard to be believed and when the diesel train blew its whistle as it passed the QTH of 4LB, I had to batten down everything within a hundred yards of my shack. What's that? it's a siren not a whistle. OK, have it your way, what's a whistle between friends.

Brian 5CA, our worthy and respected President, is at the moment of writing travelling up and around the Flinders Ranges on his vacation. I understand that he is a blood brother of the Wombi-Wombi tribe and conducts annual code exams for the local smoke signallers club.

This year's R.D. Contest was its usual success, and it is generally felt in VK5 that the 15-minute silence, plus the opening address, starts this popular Contest off on the right note. It is remarkable the number of locals who normally won't have a bar of any other Contest who dash into the R.D. melee with a whoop and a yell, and honestly seem to be enjoying themselves. This is as it should be and was the original idea behind the Contest before the competitive interest tended to cloud the real issue. Long may it continue to be the number one Contest in VK.

Heard an interview from the Best Broadcasting Station in VK (for your benefit, 5DN, ahem!) the other night with the Rev. Bob Guthberlet (better remembered as 5OD of the Port Pirie Boys' Club). Bob had apparently just returned from his four years' stay in W land and was being interviewed at Broken Hill. Good to see you back Bob, and when you are domiciled perhaps we will hear you on the air again. What about a talk to the local general meeting?

Jim 5JK has been heard occasionally on 40 with his pee-wee rig which, incidentally, delivers a hefty signal, and my spies tell me that he has almost finished his new superdooper tx which is the one to end all tx building (oh yeah!). Col 5XY is about to make a trip to Wilpena Pound and will be armed with a 122 for the purpose of maintaining contact with civilisation. He would have taken the community (?) Type 3 but the previously mentioned blood brother of the Wombi-Wombi tribe beat him to the post!

It has been suggested in higher quarters that in an attempt to raise the standard of these Divisional notes (what do they mean by that?), I should introduce a technical topic now and then. The trouble with me technically is that I find it extremely hard to come down to the level of the peasants who might be foolish enough to read these notes, however with a wife and eighteen children to support, who am I to quibble, or should it be quabble. Well now let me see, perhaps a little simple question to start. Are you aware gentle reader, that if you connect the h.t. supply to the filaments of a valve, several structural alterations take place within the vacuum? You are? Well what is the use of me going all technical!

John 5JC, our illustrious Secretary, has now resumed his position of W.I.C.E.N. Co-ordinator, so it would appear that the gremlins in the sky wire have departed. Why not announce periodicaly to your listeners that owing to magpies on the line you are having trouble with the transmission. It's marvellous just what sins that statement can cover in certain circles connected with radio. I speak with authority, John.

John 5DJ heard the other evening mobile on 40 with his mobile 4 watts. Graeme 5XV has been going great guns on 21 Mc. during the afternoons and looks like becoming a convert from 40 to this band. I rang his father, 5XU, the other night and all through our conversation on the phone I had the dubious privilege of listening to 5XV in contact with another station somewhere or other. Mow the front and back lawns for a month would fit the crime, I would think.

Nobby 5WK has been heard at odd intervals with his usual reliable signal. Pat 5LT was a visitor to the city of churches this month, down for a chat with his favourite medico, I had the pleasure of a short chat with him after he left the doctor. I asked him if he ever was on any other band but 14 Mc.,

**VICTORIAN DIVISION W.I.A.**

**ANNUAL STATE**

**CONVENTION**

at **STAWELL**

**SATURDAY and SUNDAY,**

**3rd and 4th OCTOBER, 1959**

This coincides with the Flower Show at Halls Gap and opportunity will be given for interested members to visit this show.

Further information re programme, etc., will be found in Divisional notes in this issue.

Contact Bill Kinsella, 3AKW, re accommodation; forward to him £1 deposit.

**NORTH EAST. ZONE VIC. W.I.A.**

**CONVENTION**

will be held at

**SHEPPARTON**

on

**SUNDAY, 8th NOVEMBER**

The meeting will be held in the Auditorium as last year commencing at 10 a.m.

A visit has been arranged to the Local Broadcast Station and various other items of interest are being teed up.

It is hoped that again we shall see a good roll up of metropolitan members and a big welcome will be extended to all.

**W.I.A. VICTORIAN DIVISION**
**SOUTH WESTERN ZONE**

**CONVENTION**

will be held on

**SATURDAY and SUNDAY,**

**31st OCT. and 1st NOV., '59**

at

**WARRNAMBOOL**

For all inquiries and required accommodation, contact—

**Bill Wines,**
**48 Crawley St., Warrnambool,**
**no later than 1st October.**

and he said he never bothered with any other band because by staying put in one place, the Advisory Committee always knew where to find him. What it is to have a clear conscience! Bob 5BG, whose QTH is at Crystal Brook, is shortly off for his well-earned vacation to VK3, via Murray Bridge. Bert 5BB is another one from Crystal Brook who is very active on the bands these days. Pete 5FM also now at Crystal Brook can be heard on the DX bands. These three work at the local b.c. station and any time that I go through their area I am always heavily disguised, just in case they stop me and want to argue which station is the best in VK.

Austin 5WO now has his tower up in the air again and is sporting the tri-bander that used to grave the tower of Comps 5EF, who, incidentally, is the proud possessor of a new commercial beam direct from G-land. Ern 5EN is another who is decidedly active on the air, although he is spending quite a lot of time with t.v., especially of the Amateur variety.

Les 5UX is reported to be nibbling at Amateur Radio again, and if this is true, a signal from Hawker could be heard. He is reported to be still challenging me for the title of "Mr. Physical Fitness," although I am somewhat worried by the information that a certain Amateur whom he visits in Adelaide is reinforcing all his chairs for the next visit. The main difference between Les and I is that mine is rippling muscle!

George 5EC at Ceduna is a single sideband convert. A friend of his, who will remain anonymous, tells me that he has four girls in the family and still has the names Faith, Hope, and Charity left in the box. After that it will be Mercy!

Ses 5ZBS is spending quite a time with the Nairne E.F.S.; Incidentally, his first love. Quite a number of the gang trip up on his christian name. They all call him Cec., but it is Ses. He proudly boasts that his father intended to have him christened Moses, but in her nervousness, handed the padre the name on paper, which was back-to-front, and he finished up as Sesom. If you think I am pulling your leg, ask him, he is proud of it.

Renewed acquaintance with Lance 5ZBC the other night. As a matter of fact he was making a visit of inspection to the Best Bradcasting Station in the State—the B.B.S.S., and I happened to be on the pay-sheet for the night.

Still no news from the South East gang, and I am beginning to believe that a conspiracy of silence exists. I noticed this month in the daily paper that somebody from the S.E. was ringing their local paper down there for the purpose of giving the scores of a football match. He listed the umpire as the best player, and when the mistake was discovered, everybody's face was red. Now listen fellows, my face is always red, so I don't care if you send me some information and it turns out wrong, I'm always wrong!

Considerable interest was displayed in the transistorised 28 Mc. tx belonging to Les 5AX which appeared as if by magic at the general meeting. This genuine experimenter can be counted upon to produce a piece of modern gear at the slightest notice and, incidentally, it always works.

The Lord Mayor of Adelaide coined a happy phrase this month when he described as the Rhodes Scholarship of Industry the scholarship awarded to the Apprentice of the Year by the Adelaide Junior Chamber of Commerce. The scheme under which this coveted scholarship for apprentices has been made available annually since 1956, affords a stimulus to budding tradesmen which cannot but be of the greatest value. So what, you say. Well, the winner this year is Leon Ernst, an associate member of this Division, an apprentice at Philips Electrical Industries, and he won the 12-month trip to England from 58 entrants. Congratulations, Leon. As a matter of fact he and I have a lot in common. I was voted in 19—— as the apprentice most likely not to succeed! (Don't be frightened to mention the year, Pansy, we know it was 1907.—Editor.)

It is remarkable the number of R.D. Contest log sheets that were addressed to the Adelaide G.P.O. Box Number this year instead of to the new address in VK7. All of which goes to prove that some Amateurs are a creature of habit.

Several years ago, when I used to write these notes, several of my readers' XYLs used to write to me for advice on to how to handle their husbands and the vexing question of Amateur Radio. Sure enough, and only after one month of writing the notes, my fatal attraction for the female sex has brought me a plaintive letter from "Fed-up" who asks for a cure for her helpmate's failure to leave the shack for meals when called. Well, "Fed-up," this is an unusual situation, and I must say that I have never encountered such a situation before. Oh that such wickedness should prevail! I can only suggest that you purchase a wooden mallet, a large and solid one, and also a brass gong; hit the gong with the mallet three separate times for lunch, and if no results, hit hubby with the mallet once, and all your troubles will be over.

— . . . —

## TASMANIA

The R.D. Contest is over for this year. Our Division has done remarkably well, with 66 stations known to have taken part out of a total of 129 licences issued. If all logs are submitted in time, our multiplying fraction will look very healthy. A few observations on the Contest. Very few contacts were made on the 21 Mc. band and even fewer on the 28 Mc. band. The best band throughout the Contest was the 7 Mc. band. VK3s were being worked on the 14 Mc. band, an unusual occurrence at any time. 7RX appears to have topped VK7 with his score; f.b. indeed Keith. But this result clearly shows once again that it is virtually impossible for a station in VK7 to claim 1,000 points. Some call signs heard participating in the Contest included Mark 7MH, Peter 7PF, Joy 7YL, Paul 7PJ and Tom 7SR. To summarise, the Contest was a very fine combined effort from most Amateurs within the State.

Joe 7BJ is back amongst us, after his sojourn in VK3 attending a course on television preparatory to its introduction here next year. We hope you can pass on some hints about eliminating t.v.i., Joe., as a result of your studies. The call sign of 7WI was heard during the last week in August from the Ulverstone Science Exhibition. Stations throughout all Divisions and outside are to be commended for helping the boys of the North-West Zone make this venture the success it undoubtedly was.

On the week-end of October 24-25, Scouts throughout the world will be endeavouring to make contact internationally by means of Amateur Radio. We in Tasmania will be co-operating to the full in this endeavour, and it is indeed a happy coincidence that the former world Chief Scout, our new Governor, will have at that week-end recently arrived in Tasmania. We hope that he will tape a message to Scouts throughout the world, to be played on several occasions by Ken 7KA during the week-end in question. A number of Scouts will be located at stations in Hobart and we ask for co-operation from stations both within and without Australia for contacts, whether you have Scouts at your station or not.

Myles 7MF is back on the air from his new QTH in Lindisfarne after moving from King Island, and will no doubt cause a bit more QRM to us in Hobart. Tom 7BT has been heard on the air again. Can we expect a repetition of this, Tom?

### NORTH WESTERN ZONE

Well here we are once more; time certainly is flying and I fear Xmas will soon be upon us. Really not a great deal of activity to report this month.

During August this zone manned a live exhibit at the Exhibition held in the High School at Ulverstone, which included a complete Amateur Radio Station besides all the other interesting bits and pieces. This station was on the air each night from 7 to 9 p.m. on 80 and 40 metres and VKs, ZLs and one VR were worked. I understand Chile was raised on the Saturday afternoon on 20 metres. Somewhere about fifteen thousand persons moved through the Exhibition during the week. In all quite a worthwhile venture even from our angle judging from the interest shown in the working model. Our thanks must go to Roy 7RN for the loan of his tx and rx.

I sincerely hope all our VK7 boys at least got their log sheets posted in time to be counted. I heard on the grapevine that VK6 land is a bit scared this year as there were a lot more VK7s working this year. Keep your fingers crossed chaps.

Some of our associates are still attending the Ulverstone Technical School where Dennis 7DR is gallantly driving home sufficient gen to enable them to have a shot for a ticket. Stick to that c.w. chaps.

Our usual monthly meeting was held on the 1st Sept. whereat our Zone President, Frank 7FH, gave an interesting talk on noise and ways and means of waging war on same (I mean unwanted noise) as far as we Amateurs are concerned.

We have experienced one or two araura displays during the past month and it is quite interesting to operate and listen whilst such a disturbance is taking place. The behaviour of the bands is absolutely unpredictable during such times.

We didn't have much in the way of gear for disposal at the Sept. meeting, in fact only one lone article and same was duly dealt with with much ceremony. After supper the meeting broke into small groups discussing various theories and experiences and all dispersed eventually at a really reasonable hour for a change.

The phone net of the W.I.C.E.N. is still meeting each Sunday evening and our usual zone net on Tuesdays is still proving popular, but don't forget the time chaps, 1930 hours, not 2000 hours.


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